

SUPPORTING LANGUAGE ARTS INSTRUCTION FOR GIFTED FOURTH GRADE  
ELEMENTARY STUDENTS THROUGH COACHING AND CO-PLANNING

by  
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## **Abstract**

Currently, 42 states have laws establishing the rights for the education of gifted students. In Maryland, teachers are required to differentiate instruction to meet the needs of gifted students. Teachers feel a responsibility to meet the needs of gifted students and believe that gifted students deserve the right to free and appropriate education. Placement of an identified gifted learner with a teacher does not require the teacher to have a certification in gifted education in the state of Maryland. However, Maryland state law requires that teachers receive some form of training in gifted education strategies, including differentiation. The needs assessment findings showed teachers believed they were well trained, yet they did not consistently believe in their abilities to meet the needs of gifted students. Therefore, a proposed intervention included providing elementary teachers with direct support in planning for and implementing language arts lessons to fourth-grade gifted learners.

*Keywords:* gifted students, elementary, teachers, beliefs

Dissertation Adviser: Dr. Elizabeth Todd Brown




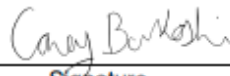

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## **Dedication**

This dissertation is dedicated to the teachers of gifted children and the children they serve.

Continue to advocate for the next generation of leaders.

My professional support system includes Deneen Houghton, Janine Robinson, Mary Tillar and Don Counts. Without their support, my dissertation study would not have been possible. I am grateful for their continuing support and encouragement for my professional growth.

My personal support includes my husband Matthew and my son Gavin. They supported me in the trickiest of times and always knew when it was time for a break. Their unwavering belief in me allowed me to pursue my goal.

Finally, I dedicate this dissertation to the memory of my father Charles Quinn and father in law William Cheesman. Both men were supporters of my educational journey, and both passed before seeing the completion of my degree.

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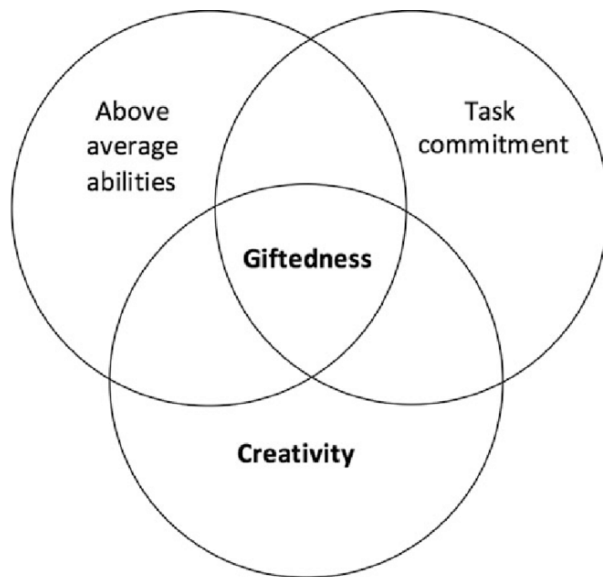
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## **Chapter 1: Understanding the Problem of Practice**

Approximately 3.2 million students receive gifted and talented services in the United States, according to the Office of Civil Rights in the United States Department of Education (Office of Civil Rights, 2012). Currently, 42 states have laws establishing the rights for the education of gifted students. However, the types of services provided can vary (<http://www.davidsongifted.org>). For example, only 36 states currently require specialized instruction for gifted students, and 24 of those partially fund the programs; the rest provide no funding. Only four states, Florida, Georgia, Iowa, and Oklahoma, fund and have legal protection for gifted children in public schools. Funding varies from state-to-state, creating vast differences between service delivery, allocation of resources, and availability of professional learning opportunities for teachers (Bhatt, 2011; Carman, 2011; NAGC, 2015).

Sydney Marland (1972) presented a report on the state of gifted education to the U.S. Congress on the same year, which still shapes the landscape of gifted education today. Marland (1972) defined a gifted student as “those identified by professionals who by outstanding abilities are capable of high performance” (p. 2). Marland (1972) suggested that gifted students needed specialized services to meet their needs, indicating gifted students were not being appropriately served. Renzulli (1978) advocated for gifted education and argued the U.S. Department of Education's definition represented an excellent start, but a broader definition would be needed to support different types of giftedness.



*Figure 1.* Renzulli triad model of giftedness. Renzulli's (1978) triad model of giftedness helps show the intersection of above average ability, task commitment and creativity that help define a gifted learner. Only when all three characteristics are present and elevated can a person be considered gifted, according to this model.

Renzulli (1978) developed the three ring conceptual model. School leaders still use the model to assess and determine giftedness. According to the Renzulli (1978) model, gifted students are identified at the point where creativity, high ability, and task commitment overlap. Relatedly, the Every Student Succeeds Act (ESSA, 2015) defined giftedness as the following:

Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by the school to fully develop those capabilities. (para. 2)

The federal definition is recognized as the national standard. The ESSA (2015) explained that each state handled creating a definition of giftedness and did not need to use the national definition verbatim. For this literature review and related to the student researcher's problem of practice, the definition of giftedness includes “having outstanding talent and performing or showing the potential for performing at remarkably high levels of accomplishment when

compared with other students” (Code of Maryland [COMAR], 2019, § 8-201). The context for the study is a suburban district in the state of Maryland; therefore, the use of the COMAR definition is most relevant to the study. Further understanding of COMAR as it relates to gifted students is necessary to understand the context.

Maryland law states that gifted learners need services to meet their needs (COMAR, 2019, § 8-201). However, each local education agency (LEA) within Maryland develops individual guidelines for interpretation of the state law. In the current context, teachers do not need to hold a degree in gifted education to provide services for gifted learners. Workshops on gifted education are offered after school hours but are not mandatory. The U.S. government requires teacher preparatory programs for teachers to develop competencies with all types of students, yet limited teacher preparatory coursework is required to meet the needs of gifted students within the United States and the state of Maryland (The Higher Education Opportunity Act, 2008; Berman, Schultz, & Weber, 2012). Often, teachers cite the need to focus on curriculum standards and support struggling students to meet grade level expectations at the expense of gifted students within the classroom (Hunsaker, Nielsen, & Bartlett, 2010; Young & Balli, 2014). Some teachers feel responsibility to meet the needs of gifted students and believe that gifted students deserve the right to free and appropriate education but dedicate more instructional time to supporting students at or below grade level (Carman, 2011; Scot et al., 2009; Young & Balli, 2014).

Further, some teachers believe gifted children do not need as much teacher time and can complete work independently without direct teacher support (Young & Balli, 2014). For example, teachers may believe gifted students are bright and deserve challenges in the classroom, but teachers may resent having to plan for gifted students or feel gifted students are

already advantaged and do not require different classroom experiences (Bégin & Gagné, 1994b; Szymanski, Croft, & Godor, 2018). These attitudes and beliefs may affect the education received by gifted elementary students, creating a problem within the U.S. public education system (Bui, Craig, & Imberman, 2014; Kettler, Russell, & Puryear, 2015).

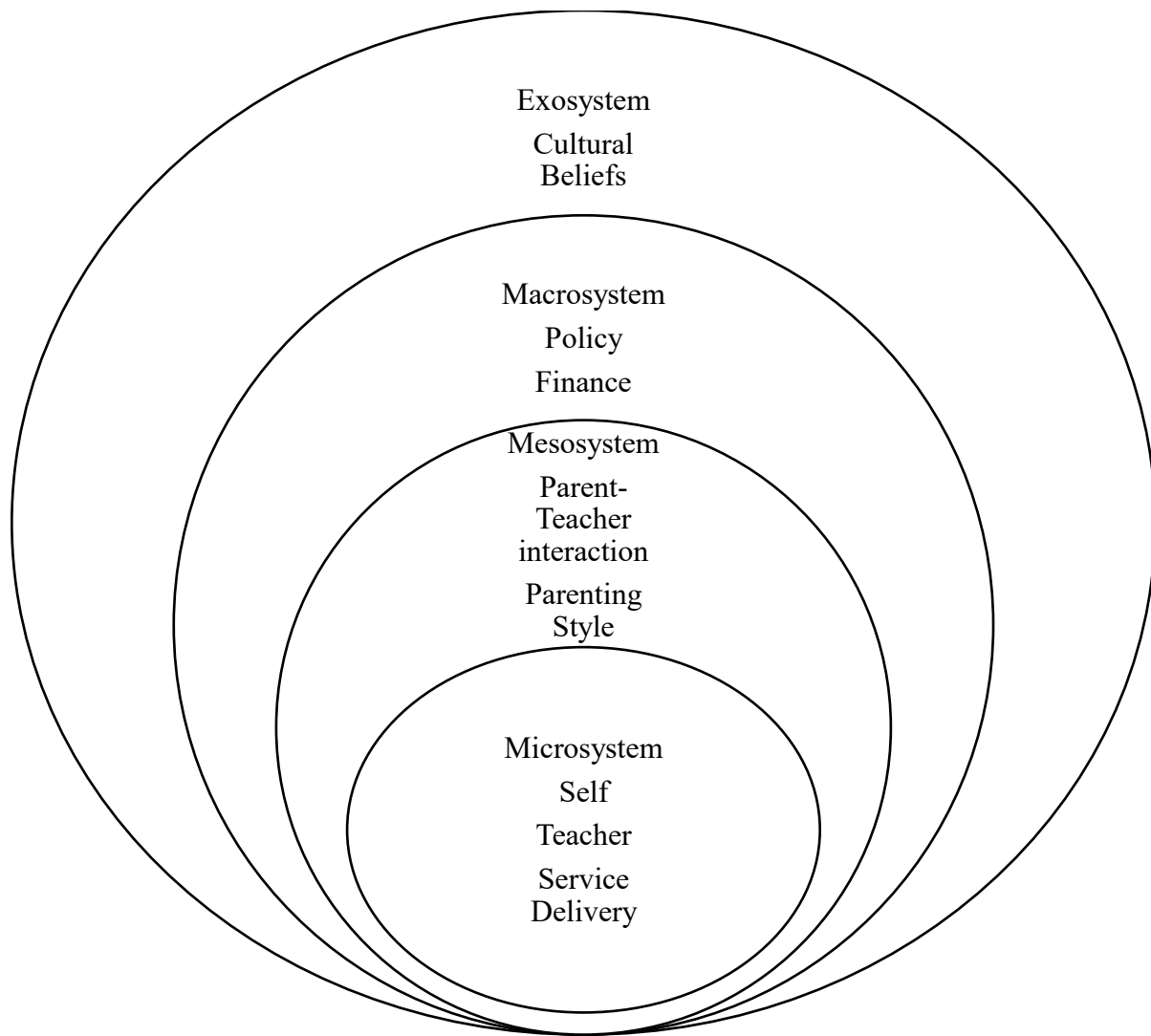
### **Problem of Practice**

Teacher attitudes toward gifted education influence teacher and student self-efficacy (McCoach & Siegle, 2003), as well as student willingness to complete classwork (Snyder, Malin, Dent, & Linnenbrink-Garcia, 2014). Teacher attitudes and beliefs may even influence identifying students for gifted services (Vogl & Preckl, 2014). Without appropriately challenging work and the perception of a good relationship with a teacher, gifted students in elementary classrooms lack motivation and the desire to work to their potential (Carman, 2011; Geake & Gross, 2008; Meier, Vogl, & Preckel, 2014).

### **Theoretical Framework**

The ecological systems theory (Bronfenbrenner, 1994) provided a framework for understanding how an individual's interactions with his or her environment could affect the psychological growth and development of a person. Figure 1 provides a visual model of ecological systems theory with constructs related to the problem of practice.





*Figure 2.* Bronfenbrenner's (1994) ecological systems theory.

The literature review begins with the nearest circle, the individual (Bronfenbrenner, 1994). The microsystem considers the attitudes and beliefs that teachers hold about teaching all students, as well as gifted students and gifted education (Diamond, Randolph, & Spillane, 2004; Carman, 2011; Foreman & Gubbins, 2015). The microsystem also includes teacher self-efficacy regarding teaching gifted students (Bandura, 1977; Gibson & Dembo, 1984; Tschannen-Moran & Hoy, 2007).

Along with the teacher in the microsystem, the review includes works about students, their attitudes about being gifted in the regular elementary classroom, and how they interact with peers and teachers within the classroom setting (Berlin, 2009; Kitantas, Bland, & Chirinos, 2017; Striley, 2014). Bronfenbrenner (1994) considered these daily interactions proximal processes. These interrelationships within the classroom comprised the microsystem.

The mesosystem considers the interaction of the parent and student relationship with the school (Bronfenbrenner, 1994). Baumrind (1971) proposed the following three main parenting styles: permissive, authoritarian, and authoritative. The parenting styles are discussed to show how the parenting style influences a child's development and how the parent views the school environment (Baumrind, 1971).

Macrosystem factors include public policy and finance about gifted learners (Bronfenbrenner, 1994; Bui et al., 2014). The review concludes with a brief review of the influence of the exosystem on the public opinion of gifted education (see Kettler et al., 2015; Reback, 2008). The review includes how public opinion drives policy and lends or removes support in the way of funding for gifted education (Baker & Friedman-Nimz, 2004; Bui et al., 2014).

## **Microsystem**

Classroom microsystems include students, peers, and teachers (Bronfenbrenner, 1994). The review begins with considering teacher attitudes and beliefs. The review concludes with the experience of the gifted student in a regular education class and the interactions they have with peers.

**Teacher beliefs.** Teachers' beliefs about students and expectations for student achievement are connected (Diamond et al., 2004). Through an ethnographic study of five

schools with highly diverse minority populations and a large population of students from low socio-economic homes, Diamond et al. (2004) found that the socio-economic status (SES) and race of students did influence teacher and administrator expectations for achievement. The interview participants included 51 teachers and administrators across the five schools. Observations also occurred within the participants' classrooms, faculty meetings, and during professional development. Regardless of the teachers' races, the participants frequently cited only deficits of the students and focused on behavior not academics. However, these stereotypes did not remain when discussing Asian children. The teachers thought Asian students would be more academically successful than other minority peers (Diamond et al., 2004).

Additionally, teachers did not feel personally responsible for minority students' academic success (Diamond, Randolph, & Spillane, 2004). They attributed environmental factors and not their ability to teach when students did not meet expectations. Research in gifted education showed similar results. Teachers of gifted students may feel less effective professionally because teachers do not see academic gains in their students when compared to non-gifted peers (Welsh, 2011). The literature regarding stereotyping and expectations for gifted students occurs later in the review.

When teachers attribute success to SES, they remove their responsibility for the child's success. In a quantitative study of 106 elementary teachers in rural Missouri, Auwarter and Aruguete (2008) found teachers, with an average of 15 years' experience, believed that students from higher SES would be more successful in school than students from lower SES. The participants read a paragraph about a boy or girl from a high or low SES family and answered questions about the fictional child's academic outcomes. Teachers believed low SES boys would be less successful than low SES girls. Like findings from Diamond et al. (2004), the teachers did

not feel responsible for educating some children because they attributed success to external factors, such as home life. Auwarter and Aruguete (2008) stated teachers might not work as hard to help these children find success because teachers did not believe the children capable. Auwarter and Aruguete considered only gender and SES, but their findings regarding teacher efficacy and responsibility for learning mirrored those of Diamond et al. (2004). Diamond et al. considered the race of the students and another variable, such as academic success, finding teachers held racial biases for student success. Across both studies, teachers' races were not a determining factor in their academic predictions for student success (Auwarter & Aruguete, 2008; Diamond et al., 2004). Teachers' implicit biases could be a determining factor in which students could gain access to GT programming (Carman, 2011; Foreman & Gubbins, 2015).

The teachers in Forman and Gubbins's (2015) national survey study completed the Scales for the Behavioral Characteristics of Superior Students (Renzulli, Siegle, Reis, Gavin, & Reed, 2009) to determine which second graders could perform at an advanced level in third-grade math. Teacher nominations for advanced math consisted of 79% White students attending affluent schools. The students nominated did not reflect the racial make-up of the school population. Underrepresentation of African Americans and Hispanic students, along with students from lower SES homes, occurred (Foreman & Gubbins, 2015). These findings aligned with Auwarter and Aruguete (2008) and Diamond et al. (2004), showing that teacher race was not a predictor for whom teachers would nominate for gifted programming. In a posttest follow-up during the nominated students' third grade years, Foreman and Gubbins (2015) found that the students excelled in the advanced math classes based on teacher nomination. Carman (2011) also found that teachers under-identified minorities, specifically African American and Hispanic students, for gifted education.

Across both studies, teachers' races were not a determining factor in their academic predictions for white student success (Carman, 2011; Foreman & Gubbins, 2015). Teachers recognized giftedness in children that appeared more like the teacher and under-identified minority children for gifted education (Carman, 2011). However, when high achieving black children are taught by a black teacher, they are more likely to be nominated for gifted programs (Barshay, 2016; Grissom & Redding, 2015). Carman (2011) and McCoach and Siegle (2007) found that teacher experience and tenure with teaching gifted children might improve teacher attitude about gifted children more than professional development opportunities or formal education.

Teacher beliefs about student achievement affect not only student grouping but also identification for gifted programs (Diamond et al., 2004). The relationship between teacher beliefs and teacher efficacy are discussed later in the literature review. Before considering efficacy, the discussion shows how teacher attitudes influence gifted student achievement.

**Teacher attitudes.** Within the microsystem of the classroom, one focus includes the teachers and their attitudes toward their students. Distinguishing between attitudes and beliefs is essential. For example, teachers may lack confidence in their abilities to meet the needs of gifted students, or they may believe they need to spend time on students not meeting grade level expectations (Bégin & Gagné, 1994b; Szymanski et al., 2018).

Gagné and Nadeau (1985) conducted a seminal measure of teacher beliefs and attitudes and identified six subscales used to determine teacher attitude toward giftedness: grade acceleration, elitism, self-perception, social value, ability grouping, and support for gifted education. In their work applying the Gagné and Nadeau (1985) scale, McCoach and Siegle (2007) studied how teachers' perceptions could influence their opinions of gifted children. For

the random sampling procedure, the participants from a national marketing list received the Gagné and Nadeau (1985) scale by mail, accompanied by an informative letter. One third of participants received the mailer with University of Connecticut letterhead, one third from the Center for Equity and Equality in Education, and one third from the National Research Center for GT. The respondents included primarily White female teachers, with an average of 16 years of teaching experience. The researchers found no difference in teacher attitudes toward giftedness based on the type of letterhead used. (McCoach & Siegle, 2007). Overall, the volunteer participants had neutral attitudes toward gifted education. Also, findings indicated professional learning opportunities did not increase positive attitudes about gifted students (McCoach & Siegle, 2007).

Although Gagné and Nadeau (1985) found that educator's age and race were predictors of attitudes toward giftedness, Carman (2011) found that teaching experience was more important in determining attitudes toward gifted children. Both preservice and in-service teacher participants believed that a gifted child was usually male, unpopular, wore glasses, liked math, and struggled at sports (Carman, 2011). Teaching gifted children helped diminish these stereotypes but did not eliminate all issues (Carman, 2011). Understanding the beliefs of teachers toward gifted students helps to understand the attitudes they may have about gifted students in the regular classroom. Researchers have also shown that teachers need experience with gifted children to improve teacher attitudes, which evidence has shown is more important than training (Carman, 2011; Szymanski et al., 2018).

**Teacher efficacy.** Within the classroom microsystem, how confident teachers feel about their pedagogical knowledge can also influence their lessons. Bandura (1977) created the self-efficacy theory to suggest that one's self-efficacy would develop over time, with repeated

experiences. Therefore, if teachers have previous success working with a particular student group, they will have higher rates of self-efficacy than if they have not experienced success (Bandura, 1977). Also, if people have previous success in an activity, they will exert more effort in future experiences. However, if previous experiences have been negative, people will exert less effort in future experiences (Bandura, 1977).

The development of teachers' professional self-efficacy occurs over time by working with a variety of students based on differing races, SES, and abilities (Bandura, 1977; Carman, 2011). However, novice teachers lack such experience in the classroom; one should consider how teacher self-efficacy develops from preservice teaching through their careers (Tschannen-Moran & Hoy, 2001). In a study of 255 preservice and in-service teachers, the researchers measured teacher efficacy using the Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001). This 24-item scale uses a Likert scale from 1 (*nothing*) to 9 (*a great deal*) to measure three subscales: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. The *t*-test analysis results indicated preservice teachers rated themselves lower on levels of instructional strategies and classroom management than in-service teachers. There was no statistical significance between preservice and in-service teachers' results on the student engagement subscale. The researchers indicated preservice teachers must find ways to improve their instructional efficacy to build their professional self-efficacy. When self-efficacy did not increase, 40% of teachers left the profession within the first five years of teaching (Tschannen-Moran & Hoy, 2001).

Gibson and Dembo (1984) wrote a seminal article and studied the factor of teacher efficacy and how to define the construct through classroom observations and survey assessments. The three-phase study included current and preservice teachers. Phase 1 included 208 elementary

teachers of grades kindergarten through Grade 6. Teaching experience ranged from 1 to 29 years. Each teacher completed the Teacher Efficacy Scale, a 30-item Likert survey allowing responses from 1 (*strongly agree*) to 6 (*strongly disagree*). Phase 1 validated the TES measure based on the construct of Bandura's (1977) self-efficacy theory (Gibson & Dembo, 1984). Phase 2 included 55 teachers working toward their master's degree in education. The participants in this phase also completed the Teacher Efficacy Scale, as well as an open-ended assessment measuring student success in school and verbal ability tests (e.g., Controlled Associations Test) and a measure of flexibility (e.g., Finding Useful Parts and Planning Test; French, Ekstrom, & Price, 1963). Phase 3 involved conducting observations with eight participants from Phase 1, with four high self-efficacy and four low self-efficacy participants, as determined by their survey responses in Phases 1 and 2.

The results from the classroom observations provided support for the research aim, indicating that teachers might not only have strong professional efficacy but also believed they had no control over outside factors. These factors included home life that might influence a student's performance in school (Gibson & Dembo, 1984). The findings indicated teachers with higher levels of professional efficacy had higher expectations for their students and believed in their students' abilities to attain success compared to teachers with lower professional efficacy.

Teachers with more experience working with gifted students showed higher rates of professional efficacy compared with general education teachers (Hong, Greene, & Hartzell, 2011). In a study of 182 elementary teachers in a large urban school district, Hong et al. (2011) found teachers in classes dedicated to gifted students stated they had more experience as a teacher and participated in more professional learning opportunities dedicated to gifted students compared to their colleagues. The participants completed surveys designed to measure



epistemological beliefs (Epistemological Beliefs in Teaching and Learning [EBTL]; Hong & Nadelson, 2006), metacognition (Self-Assessment Questionnaire [SAQ]; Hong & Peng, 2008), and motivation (subscales within SAQ). The results indicated teachers of gifted students believed they had more control over how they structured their classroom environments and supported student learning. The teachers not working with gifted students cited a greater focus on test scores and student performance (Hong et al., 2011).

Gibson and Dembo (1984) and Tschannen-Moran and Hoy (2001) suggested teachers needed to work with gifted students to improve their perceived efficacy in teaching gifted students. Hong et al. (2011) defined a way to support teacher efficacy as using metacognitive work. Teachers need opportunities to reflect and think about the content and skills in their lessons. Gibson and Dembo (1984) studied if teacher professional efficacy was the same as personal efficacy. Gibson and Dembo and Hong et al. (2011) suggested a distinction existed between professional and personal efficacy. Hong et al. (2011) contributed to this body of research by extending findings to show professional efficacy could be performance related or learning related.

Frequently, teachers of gifted students are learning oriented, focusing on activities to support creativity and learning. Performance goal-oriented teachers focus on grades and test scores over developing lessons to allow students to exercise creativity. Like Gibson and Dembo (1984), Hong et al. (2011) found that teachers of gifted students had higher intrinsic motivation and focused more on performance goals when compared with regular education teachers. These findings are important because gifted students are often taught in regular education classes by teachers with limited training in gifted education (Hong et al., 2011).

**Instructional practices for gifted students.** Understanding how students receive instruction and by whom shows an explanation of the classroom microsystem. There is variance in the policies governing gifted education, just as there is much variance in how gifted students receive instruction (National Association for Gifted Children [NAGC] & The Council of State Directors of Programs for the Gifted [CSDPG], 2015). Notable differences occur in expectations for teacher training, types of services delivered directly to gifted students, and models of instruction (NAGC & CSDPG, 2015). Further, knowing the expectations for teacher training in working with gifted learners is discussed in depth later when considering teacher efficacy.

Current data collected by the NAGC and CSDPG (2015) presented in the 2014 to 2015 *State of the States in Gifted Education* summary indicated that out of 38 states that participated in the survey about gifted education, only three states required general education teachers to have training on gifted students. Eighteen of the reporting states had no policy for teacher training with gifted students (NAGC & CSDPG, 2015). Results from the survey indicated that one of the most common places for children to receive gifted services was within the regular classroom. The following section show how service delivery for gifted students.

**Teacher training.** According to the *State of the States Report* (NAGC & CSDPG, 2015), leaders of 23 states allow individual districts to determine how teachers receive training in gifted education. The results from the survey indicated one of the most common places for children to receive gifted services was in the regular classroom. Current literature shows support for the findings of the study, indicating most gifted students receive their education in the general education environment from teachers with varying levels of experience working with gifted students (Gibson & Dembo, 1984; Hong et al., 2011; Tschannen-Moran & Hoy, 2001). Because state requirements for teachers of the gifted vary nationally, researchers have struggled to

determine if gifted students are consistently being educated by teachers best suited for gifted learners (see Table 1 for an overview of state requirements for gifted education; Hong et al., 2011; NAGC & CSDPG, 2015).

Table 1

*Overview of State Mandated Programming and Funding for Gifted Education*

State requirement for gifted education	Number of states
Programs are mandated and fully funded	4
Programs are mandated and partially funded	24
Programs are mandated and not funded	10
Programs are not mandated and are partially funded	5
Programs are not mandated, and no funding is available	8

*Note.* Data retrieved from [davidsongifted.org](http://davidsongifted.org).

Leaders of only 19 states require teachers to hold a credential in gifted education if they educate gifted students (NAGC & CSDPG, 2015). Therefore, in over half of the states, gifted children receive instruction from educators with limited or no required training in gifted education. NAGC and CSDPG (2015) outlined training options, including undergraduate-level college coursework for preservice teachers (only required in Nevada), graduate or postgraduate coursework, or school-based training provided by district-level personnel (NAGC & CSDPG, 2015). Professional development offerings vary from state-to-state but can include training in how to identify students for gifted education services, instruction in strategies to use with gifted students, and curriculum frameworks and understanding of various program models (NAGC & CSDPG, 2015).

For example, the COMAR (2019) required teachers of gifted students to have training in gifted education. However, leaders of each district can determine what that training might include. Within Anne Arundel County Public Schools, the site of this student researcher's work, teachers do not need a certification to teach gifted students, and all professional development opportunities are voluntary. Professional development opportunities in gifted education strategies

vary from full-day workshops, in-school professional development led by trained district personnel, or one-on-one trainings provided by teacher request.

***Service delivery models.*** Leaders of only four states fully fund and provide mandates for gifted education. The states include Florida, Georgia, Iowa, and Oklahoma. Within these four states, a variety of models exist to deliver instruction to gifted students. For example, in the state of Florida, multiple different models of instruction support gifted learners including self-contained class, resource room, advanced content class, cluster grouping, support facilitation, mentorship or internship, dual enrollment, consultation, and acceleration. Each gifted child in Florida has an individualized Education Plan which allows schools to monitor student progress toward academic goals. Table 2 shows a complete list of all available services.

Table 2

*A Comparison K-12 of Service Delivery Models*

Florida	Georgia	Iowa	Oklahoma	Maryland
Self-contained classes	Resource class Advanced Content Acceleration	Acceleration Ability grouping	Enrichment AP, IB or honors classes	Acceleration Enrichment Magnet programs
Resource room (pull out)	AP and IB courses Cluster grouping Indirect	Concept-based programs Cooperative grouping with like peers	Resource room Mentorships Acceleration Concurrent enrollment	AP or IB courses Mentorships Dual enrollment
Advanced content course	Services/Collaborative teaching	Curriculum compacting		
Cluster grouping	Internship/Mentorship	Honors, AP and/or IB courses	Dual enrollment	
Support Facilitation Mentorship Dual Enrollment		Mentorship Pull out and push in programs		
Consultation Acceleration		Regrouping Skill based programs		
		Specialized curriculum University programs		

*Note.* Comparison is of the four states with fully funded and mandated programs and the state of Maryland where funding is determined by local education agencies. AP stands for Advanced Placement, IB stands for International Baccalaureate. Data retrieved from each state's Gifted Education web page. Florida: Florida's plan for K-12 Gifted education, Bureau of Curriculum and Instruction, 2013. Georgia: Georgia resource manual for Gifted Education Services, Georgia Department of Education, 2018. Iowa: Multi-tiered systems of support guide for the advanced learner, Iowa Department of Education, 2018. Oklahoma: <https://sde.ok.gov/gifted-and-talented-education-programming-options>. Maryland: <http://marylandpublicschools.org/programs/pages/gifted-talented/index.aspx>

In Georgia, leaders of state mandates allow for direct service to gifted children out of the regular classroom for up to 10 sessions or class periods a week (Georgia Department of Education, 2018). Iowa requires that each school leader documents how they will program for gifted learners on their School Improvement Plan (NAGC & CSDPG, 2015). Iowa identifies many ways to provide service to gifted learners, and the state department of education has a multi-tiered system of support guide available to districts. This guide indicates ways to support gifted learners along a continuum of services (NAGC & CSDPG, 2015). The guide provides suggestions of supports for teachers of students in kindergarten through high school. These supports include ability grouping, co-teaching, pull out programs, and acceleration. Additionally,

Iowa identifies having after-school enrichment opportunities, advanced clubs, and independent self-guided project-based learning (NAGC & CSDPG, 2015).

Oklahoma utilizes curriculum compacting, skipping parts of the curriculum already mastered, and permits modifications to the curriculum. The models in these four states are similar across the nation in how gifted children receive services, specifically with several opportunities (<http://www.davidsongifted.org>). Leaders of all states provide advanced placement classes (<http://www.davidsongifted.org>). Leaders of many states use curriculum compacting and modifying to differentiate instruction for gifted learners (<http://www.davidsongifted.org>). These are the only states that fully fund gifted education and require gifted children to receive specialized instruction; leaders of many states do offer enrichment and grouping opportunities without dedicated funding or legislation (NAGC & CSDPG, 2015).

For example, in Maryland the identification of gifted students and delivery of services are mandated but not directly funded. Thus, leaders of each local district determine the types of service delivery models provided; however, the COMAR (2019) required leaders of all districts to provide different services for those identified as gifted and talented (GT). Several ways to support gifted learners in Maryland and across the nation include cluster grouping, pull-out instruction in a separate class, and grade acceleration. Models vary across grade levels, from early entrance to Kindergarten, advanced reading and math groups, GT curriculum units, and some pull-out programs at the elementary and middle levels to AP courses and dual enrollment in college at the high school level (COMAR, 2019).

Placement of an identified gifted learner with a teacher does not require the teacher to have certification in gifted education in Maryland. However, leaders of state law require that teachers receive some form of training in gifted education strategies and encourage teacher

leaders or administrators who supervise gifted education teachers to earn a certificate in gifted education (COMAR, 2019). With limited requirements for gifted educational training, teachers may lack the confidence needed to feel successful teaching gifted learners (Gibson & Dembo, 1984; Scot et al., 2009). Based on teacher efficacy and service delivery for gifted education, the following discussion shows one of the most common types of service delivery: acceleration.

***Acceleration.*** A commonly implemented strategy across the discussed states is acceleration. Assouline, Colangelo, VanTassel-Baska, and Lupkowski-Shoplik (2015) identified 20 different ways to accelerate curriculum for gifted students. The researchers argued that acceleration is one of the easiest and most cost-effective ways to meet the needs of gifted students, aiding districts with limited funding and training opportunities for teachers (Assouline et al., 2015).

Acceleration allows a gifted child to progress at his or her rate, and teachers match the curriculum to the student's ability. Acceleration can happen in one subject called content acceleration, or for the entire grade level called grade acceleration (<http://www.hoagiesgifted.org>). In Anne Arundel County Public Schools, grade acceleration is a school-based decision. Although it requires the endorsement of a teacher, the teacher does not independently make the decision. Previous research indicates that because of established social constructs in the education system requiring students to be with same-age peers and a lack of teacher training and experience, acceleration is not used frequently or effectively to meet the needs of gifted students (Colangelo, Assouline, & Gross, 2004). Further, because educators and parents may not fully understand acceleration or the benefits for a child, acceleration has not, in the past, been considered the best option for children (Assouline et al., 2015).

Research indicates that acceleration helps the gifted child want to learn and become engaged with school (Assouline et al., 2015). Further, because of their maturity, accelerated students do not fall behind socially and can make friends with peers (Assouline et al., 2015). However, some educators and parents hold stereotypes or biases against acceleration. Aligned with previous research findings (Bégin & Gagné, 1994a; McCoach & Siegle, 2003, 2007; Szymanski et al., 2018), some educators may hold negative attitudes about acceleration, thinking it unfair to other children or the gifted child could become egotistical (Assouline et al., 2015). However, research indicates acceleration helps the gifted child want to learn and become engaged with school.

***Schoolwide enrichment model.*** Renzulli (2012) pioneered the schoolwide enrichment model (SEM). Renzulli (2012) proposed that gifted students learned best when they had autonomy over learning and could demonstrate creative and innovative solutions to real-world problems. Renzulli (2012) used the SEM as a framework for schools to engage gifted students and provide opportunities to learn (see Figure 2). The SEM provides a framework for school leaders to support gifted identification and programming.



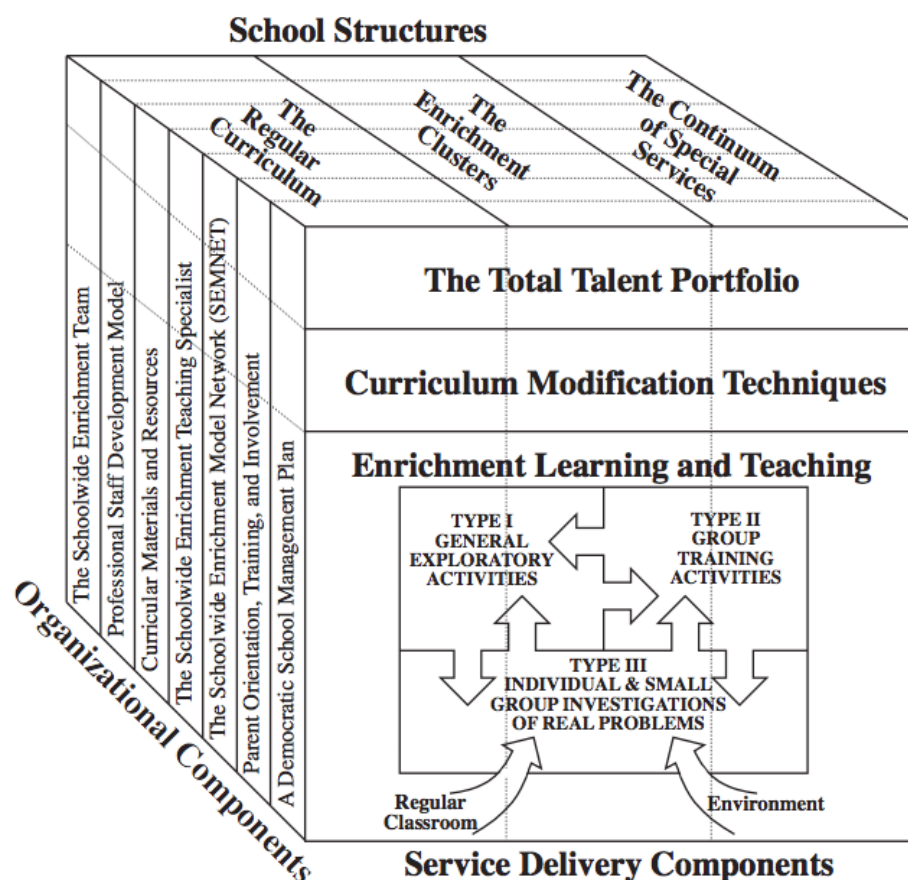


Figure 2: The schoolwide enrichment model (Used with permission).

When implemented, leaders of strategies in the SEM allow children to collaborate to create products supporting their academic, creative, and social growth. While not a curriculum, leaders can use the SEM to support gifted students and their teachers by providing support for ways to enrich gifted students while working within mandated curriculum expectations (Renzulli, 2012; Renzulli & Renzulli, 2010).

Both the SEM (Renzulli & Renzulli, 2010) and acceleration are easy to implement at the school level, allowing schools autonomy on how leaders provide gifted education. One advantage of the SEM (Renzulli & Renzulli, 2010) involves leaders of the school providing enrichment for all students, not just a few. Leaders who implement this model can support the academic and creative growth of all students so that more students reach their academic potential

without teacher biases preventing some students from working at higher levels (Carman, 2011; Diamond et al., 2004). Acceleration allows teachers to provide support for students by allowing them to work at their own pace and work with like-minded peers (Assouline et al., 2015). Gifted students like to work with similar peers and enjoy being challenged (Berlin, 2009; Kitantas et al., 2017). Leaders of both the SEM and acceleration provide those opportunities.

**Student beliefs and attitudes about being gifted.** Gifted students are aware they differ from other students (Berlin, 2009; Kitantas et al., 2017). Sometimes, gifted students receive different assignments or are moved from their peers for part of the day (Kitantas et al., 2017). Some gifted students know they have the label of being gifted, which may lead to them feeling stereotyped by teachers or peers (Kitantas et al., 2017; Košier et al., 2016).

Grouping gifted children together, following the SEM, results in gifted students reporting an overall favorable opinion of school and a greater positive feeling toward their teacher (Renzulli & Renzulli, 2010; Vogl & Preckl, 2014). In a year and a half study of 920 German students' academic self-concept, Vogl and Preckl (2014) found gifted students had more positive opinions about school and higher academic achievement when put in classes with other gifted children. The Self-Description Questionnaire (Marsh, 1990) measured academic self-concept, and measures of goal valuation included the Achievement Goal Questionnaire (Elliot & Church, 1997). Nonverbal measures of cognitive ability included the German form of the Cognitive Ability Test.

Similarly, Kitantas et al. (2017) found the more gifted the child, the more he or she would connect with other gifted children, and each child fared better when grouped with similar children on dimensions of liking teachers and getting along with peers. In this qualitative study of 49 students in Grades 3 to 8, students participated in focus groups to discuss their opinions

about their gifted classes. From the eight focus groups conducted, similar themes emerged across grade levels that included academic and social-emotional needs. From the middle school students, a third theme emerged of instructional needs. Overall, students expressed enjoying a challenge in school. Students preferred being in gifted classes where they perceived the work as more fun and perceived greater peer acceptance in their gifted classes than in the regular education classes. These results aligned with findings from Vogl and Preckl (2014) that gifted students enjoyed being in classes with other gifted students. Similarly, Young and Balli (2014) conducted a qualitative study of children in Grades 4 to 7. The researchers interviewed three students who attended magnet schools for gifted children and their parents (Young & Balli, 2014). The children expressed that they preferred to be in classes with similar thinking peers because they felt more comfortable and had like-minded friends (Young & Balli, 2014).

Grouping gifted children together is not a panacea. Frequently, children indicated they had concerns about being bullied or stereotyped by peers (Vogl & Preckl, 2014). Additionally, both students and parents voiced concerns about gifted programs' quantity of schoolwork and the lack of advanced level assignments (Young & Balli, 2014). Students also claimed teachers acted stricter, assigned more work but not necessarily more complex work, and often gave more homework (Kitantas et al., 2017). Another complaint among the children interviewed was that teachers spent class time focusing on preparing for state tests and not on engaging in fun and challenging tasks (Kitantas et al., 2017).

The students claimed to feel they made academic gains (Kitantas et al., 2017; Vogl & Preckl, 2014), but these claims contrasted Bui et al. (2014), who found children grouped in gifted classes did not demonstrate better academic achievement than when not grouped. The sample population included 4,055 students in the seventh grade in a southwestern United States school

district during the 2009 to 2010 school year. Of the sample population, 1,509 participated in gifted programming; of those, 542 students attended a magnet school for gifted students. The researchers identified the magnet schools from this study as places where gifted students received more advanced classes, followed a gifted curriculum, and had more highly qualified teachers compared to other schools within the district (Bui et al., 2014). By comparing achievement test data provided by the district between magnet, not magnet, GT, and not GT, the researchers found GT programs did not significantly increase students' academic growth compared to their peers. However, Bui et al. (2014) did not consider the peer or teacher relationship that could make a student feel successful in school, as indicated in previous studies (Kitantas et al., 2017; Vogl & Preckl, 2014).

**Peer influences.** Gifted children may not always work to their potential because of the influence of peers. Within the classroom microsystem, teachers and gifted children do not exist in isolation. As children mature, the approval of peers becomes more significant (Striley, 2014). Understanding peer influences can show the idea of underachievement from a unique perspective outside of the teacher's control. For example, using a brief five-question interview of 149 gifted middle school children in regular education classes within a midwestern city, Striley (2014) found several common themes. The questions required the participants to consider defining gifted and normal to identify if they felt normal and if they fit in with peers. The student participants saw themselves as different from their peers and identified that being gifted was an advantage. However, gifted students reported stereotypes, such as being unathletic or nerdy, and survey data indicated they students experienced insults related to being called smart (Carman, 2011; Striley, 2014). Most students claimed to like their classes and the challenges but felt inferior to their peers socially, leading to self-handicapping behaviors, such as purposefully failing

tests. Unfortunately, engaging in avoidance behaviors creates separation from peers, leading to more dissatisfaction in school (Striley, 2014).

Peer acceptance can be gender dependent (Kôsier, Horvat, Aram, & Jurinec, 2016). In a sample of 404 students in Slovenia schools, the students rated themselves using the Self-Description Questionnaire II (Marsh, 1990) to measure how well they made friends, perceptions of their academic abilities, and interests in school, as well as self-esteem. A second measure asked the student respondents to name three students they liked most and three they liked least. Peers of the gifted boys scored the relationships as higher compared to gifted girls on levels of social acceptance—peers were more accepting of gifted boys and cited them as more athletic and fun. Peers described the gifted girls as bookish and introverted (Kôsier et al., 2016).

Also, the more academically gifted the child, the more negative relationship with peers (Berlin, 2009). In the Berlin (2009) study, 66 middle school students attending a gifted program within a public middle school listed 10 of the most positive and negative traits about being gifted. In contrast to Kitantas et al. (2017), the participants indicated they did work hard in classes because they enjoyed the work more when placed with similar peers (Berlin, 2009). However, as gifted children mature and become more aware of peers, peer influence on social-emotional needs can influence how students perceive their enjoyment of learning (Berlin, 2009; Kitantas et al., 2017)

In urban settings, compared to suburban or rural settings, peer influence can be strong enough to prevent gifted children from participating in gifted programs (Koshy, Brown, Jones, & Portman Smith, 2013). In research interviews of 21 urban parents with reported low SES, the parents indicated peers as a barrier to academic success. All the parents claimed peers negatively influenced their children, and they often refused to let their children out of their homes to prevent

contact with peers (Koshy et al, 2013). Further, urban parents of low SES felt disconnected from their communities when raising gifted children (Koshy et al., 2013; Striley, 2011).

**Conclusion.** Teachers have many options on how to educate all students, including gifted students (NAGC & CSDPG, 2015; Renzulli, 1978, 2012). The SEM provided a framework to help teachers identify gifted students and then program to meet their needs. However, teacher and peer stereotyping may influence the experience of gifted students in elementary classes (Carman, 2011; Kitantas et al., 2017; Striley, 2011). The follow sections show Bronfenbrenner's (1994) mesosystem comprised of interactions between the school and home.

### **Mesosystem**

Peers and personal, academic self-worth can influence academic achievement within the classroom; the teacher sets the tone for a welcoming classroom environment (Hardiman, 2012). The student-teacher relationship does not exist in isolation within the classroom. Outside influences from the mesosystem can adjust how teachers and students work together. Bronfenbrenner's (1994) mesosystem definition shows the complicated relationship between the school environment and home. A significant factor that can affect the teacher-student relationship, especially at the elementary level, is parents (Pilarinos & Solomon, 2017).

**Parental expectations.** The mesosystem comprises the home-school relationship. Understanding parental expectations for their children, especially gifted children, and how that looks in the classroom is essential when considering the relationship among teachers, students, and families (Pilarinos & Solomon, 2017). Parent expectations for school create the tone for the home-school relationship (Pilarinos & Solomon, 2017). Parental expectations for student achievement do not increase or decrease after the initial three years of education based on academic motivation questionnaires in Rätty and Kasanen's (2013) 9-year longitudinal study of

Finnish families. The initial results showed that college-educated parents held more confidence in their children's academic achievement and motivation. The parents considered boys better at math and girls better at reading. These results were similar in families with college-educated parents, as well as parents who worked in a vocation (Räty & Kasanen, 2013).

**Parenting styles.** Understanding the influence of parents on gifted students is important for understanding the development and performance of gifted students in the classroom. Three main parenting styles identified by Baumrind (1971) continue to define parenting today: permissive, authoritarian, and authoritative. Permissive parents consult with children and allow the child control over activities. Permissive parents do not punish, instead trying to explain rules and expectations with few limits or parameters. Conversely, authoritarian parents expect compliance and try to control their children's behaviors. The authoritarian parent values respect for authority and expect children not to question the word of adults. Authoritarian parents are a blend of authoritative and permissive. Authoritarian parents respect a child's uniqueness but still provide rules and limits.

For gifted children, the authoritarian parenting style is the most common (Pilarinos & Solomon, 2017). Using parent and teacher interviews of 48 children with an IQ of 130 or more, as measured by the Wechsler Intelligence Scale for Children (WISC-IV, 2003), a correlation between parenting styles and psychosocial adjustment or the ability to navigate day-to-day challenges became apparent. The sample included 48 mothers, 33 fathers, and 36 teachers, who were all English speakers in Montreal, Canada, and children aged 7 to 11 years old. During home visits, parents completed the Parent-Authority Questionnaire (Reitman, Rhode, Hupp, & Altobello, 2002), a 30-item Likert scale assessment divided into subscales of parenting styles, permissive, authoritarian, and authoritative. The Likert scale ranged from 1 (*strongly agree*) to 5

(*strongly disagree*). Parents and teachers also completed the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), measuring the level of their children's psychosocial adjustment.

The SDQ contained 25 items and five subscales, including emotional problems, conduct problems, hyperactivity, peer-social problems, and prosocial behaviors (Pilarinos & Solomon, 2017). Consistent results emerged among the parents and teachers from the scores on the SDQ. The children completed the Piers-Harris Self-Concept Scale-Second Edition (Piers, Harris, & Herzberg, 2002) to measure their psycho-social adjustment. The results indicated both mothers and fathers reported using the authoritative parenting style more often. The more authoritative the parents' scores, the more intelligent the students scored themselves, and they felt more successful at school. In contrast, permissive parents' children demonstrated lower intellectual perceptions at school based on teacher response, lower self-concept, and lower happiness when compared with children from authoritative parents.

**Parent-school connection.** The expectations of parents for their children extend into the classroom, creating the home-school mesosystem (Bronfenbrenner, 1994). Parents of gifted children, especially mothers, believe they handle their child's academic success, which aligns with the authoritarian parenting style (Garn, Matthews, & Jolly, 2010). Some researchers interviewed 30 mothers from across the United States, including 28 White mothers, one black mother, and one Asian mother; the demographics were consistent with the gifted population in U.S. public schools at the time of the study (Garn et al., 2010). Each of the 30 mothers participated in a semi-structured phone interview. Coding across multiple researchers showed identifiable themes. The themes included parents as experts, scaffolding, and behavior modification (Garn et al., 2010).



Garn et al. (2010) noted that the parents as experts theme showed that parents believed they alone understood their children's interests and could motivate them. The parents in the study indicated the school blocked the academic motivation of their gifted children. The parents believed schoolwork inadequate and believed teachers had limited control over their children's academic progress and motivation. Like the expert theme, the scaffolding theme elaborated on ways the parents supported their children in homework completion by chunking work, allowing choice or a schedule for completion rather than expecting their children to create a study schedule. The parents believed these strategies afforded autonomy for work completion and allowed the children's feelings of academic success to remain intact.

Like the parents in Garn et al.'s (2010) study, Mudrak (2011) found that not only did parents believe they had the most control over students' motivation and academic performances, but parents also viewed giftedness as something to be fulfilled—an expectation of their children rather than definition of their children. Mudrak conducted an interview case study with five mothers and one father and their children, ranging in ages from 8 to 13 years old. Using semi-structured interviews, parents believed their children's giftedness required the parents to cultivate, support, and monitor their children to meet their potential. Like the other research on parenting styles, authoritarian parents feel responsible for their children's academic and social success (Garn et al., 2010; Pilarinos & Solomon, 2017). Parents cited giftedness as a fixed trait, something inherent in the child requiring attention for the child to thrive (Mudrak, 2011). Giftedness, at times, supersedes the development of the child, a factor that influences motivation toward school and activities (Mudrak, 2011). Parents see advancing the academic gifts of their children as more important than fostering friendships or allowing their children to consider other outside interests (Garn et al., 2010; Mudrak, 2011).

Parenting styles and expectations can influence the motivation of gifted children (Garn & Jolly, 2015; Garn et al., 2010; Rätty & Kasanen, 2013), which can support or inhibit performance in the classroom. Some gifted students cite that they are happier and perform better when they have authoritarian parents (Pilarinos & Solomon, 2017). Parents believe they are the best at motivating their children, and school is a place that extinguishes that motivation to succeed. Without an amicable partnership between the school and home, gifted students may not feel the motivation to work to their potential.

**Policy and finance.** According to Bronfenbrenner (1994), the macrosystem provides a framework for culture and the necessary scaffolding as one narrows focus on a facet of society. Many feel that gifted education is an elitist ideal, and funding should support struggling students (Baker & Friedman-Nimz, 2004; Brown, Leonard, & Arthur-Kelly, 2016). Resources continue to be dedicated to students who need improvement, not those already able to work beyond standards (Scot et al., 2009; Yeung, 2014). This section shows the policies around gifted education, including the provision of law for gifted students and the allocation of funding.

**Policy.** Over the past two decades, research has shown that gifted education is only relevant when the law mandates attention (Brown et al., 2016; Kettler et al., 2015; Warne & Price, 2016; Yeung, 2014). Teachers educate the average student and need resources to reach outliers for both advanced students and struggling students. State leaders use funding to support struggling students at the expense of gifted students (Baker & Friedman-Nimz, 2004). Using secondary data from the U.S. and Canadian Public-School Finance Programs, some researchers described policies for financing gifted education (Baker & Friedman-Nimz, 2004). Data represented 19 states and 3,231 independent districts. In a comparison of student spending across all states to those that legislate funding for GT students, the researchers showed how vertical

equity supported the education of gifted students. Baker and Friedman-Nimz (2004) defined vertical equity as the “unequal treatment of unequals” (p. 39). A child working above grade level standards requires fewer resources than a student performing below grade level. Therefore, resource allocation to a lower performing student may come at the expense of a child working above grade level. These results corresponded with Bui et al.’s (2014), showing limited evidence that programs for gifted students improve outcomes for gifted students. However, strategies used to teach gifted students benefit all children (Bui et al., 2014).

In a state-wide exploration of funding in Texas, Kettler et al. (2015) defined the allocation of funding for gifted programs as more prevalent in suburban schools with higher SES and lower minority populations. By comparing 1,029 school districts in Texas, including rural, urban, and suburban, the researchers found a lack of consistent funding and equal access to education for gifted students. Data from public access database included per pupil spending, GT participation, and staffing from each of the studied school districts. Urban areas spent the most on GT education, and rural districts spent the least. Districts with higher special education populations spent less on GT programming and students. The lower SES of the district, the less money spent on GT students, including staffing and curriculum resources. Again, if GT programming and dedicated staff demonstrate limited positive growth for students (Bui et al., 2014), limited evidence showed support for allocating funding and teachers dedicated only for the instruction of GT children.

Students perform better when test scores influence accountability ratings for schools and individual teachers (Reback, 2008). In a longitudinal study comparing test scores of Texas students in Grades 3 to 8 and Grade 10 over five years, Reback (2008) found teacher incentives, usually monetary, increased performance for low performing students in reading or math during

a school year. The lowest performing students demonstrated the most significant gains in reading or math, depending on the school's focus. The student population included those who scored above 30% or below 84% at the beginning of the study. The studied population omitted English language students, students who transferred between schools, and gifted students. The findings aligned with Kettler et al. (2015) who showed that districts with a large low SES population spent less money on GT programming than districts with a smaller low SES population.

***Finance.*** Only 20% of all U.S. districts offer funding allocations for gifted education (Yeung, 2014). Using secondary data provided from Longitudinal Unified School District Fiscal-Nonfiscal Detail File from the National Center for Education Statistics, Yeung (2014) determined the societal inequity of spending across U.S. districts. By comparing districts on measures of total expenditures per pupil, total instructional expenditures per pupil, state revenues for special education per pupil, and state revenues for gifted education per pupil, funding inequities appeared not only across states but within as well. If funding can aid gifted students, then the money cannot go to support lower SES, special education, or English language students (Yeung, 2014).

Further, Della Sala, Knoeppel, and Marion (2017) noted that although some states might allocate funding across schools equally, the funding did not provide equity in education. In this study of 470 elementary schools, 300 middle schools, and 215 high schools from one U.S. state, the researchers determined the variables that had the most significant influence on student achievement. Using structural equation modeling to compare variables of student characteristics and personnel variables, the researchers defined the single most influential variable for student achievement as the teacher. Similarly, Kettler et al. (2015) discovered extreme variances in the delivery of gifted education across 1,029 districts within Texas. The variances included staffing,

per pupil spending, and access to gifted programs. When comparing means, the researchers noted that as the special education and minority populations increased, staffing and funding for gifted students decreased (Kettler et al., 2015). Gifted students were denied their equitable access to their education because money was diverted to other student populations seen as needier (Kettler et al., 2015; Yeung, 2014).

Public policy and allocation of funding indicate a negative cultural attitude toward gifted students (Yeung, 2014). Only 20% of all U.S. districts offer funding allocations for gifted education (Yeung, 2014). However, gifted students comprise over 5% of the student population (Bhatt, 2011). Financial resources are imperative to provide the education gifted students deserve. The following section shows the research investigating cultural beliefs of gifted students.

**Cultural beliefs.** Public opinion, part of the macrosystem, often casts gifted education in a negative way (Bui et al., 2014; Yeung, 2014). For example, when Bui et al. (2014) conducted a longitudinal study to support No Child Left Behind (NCLB, 2002) legislation of the results of gifted magnet programs in a large independent school district in the southern United States, they found GT programs did not support the academic growth of students in dedicated programs for gifted students. The sample included 542 students eligible for GT programming in fifth grade, and 342 gained admission to a magnet school for gifted students through a lottery system. The qualifications for the eligibility included scores on a nationally normed test, SES, grades, and teacher recommendation. The researchers measured academic progress by comparing the lottery winners to nonlottery winners across three semesters or until the middle of the seventh-grade year. Using regression discontinuity to analyze data, including grades, courses taken, discipline, and attendance, Bui et al. found little to no academic effect on those GT students participating in

magnet programs compared to those GT students not participating in magnet programs. Further, Bui et al. (2014) recommended the school districts should expand the GT program to allow more students to enter if “it does no educational harm” (p. 59).

In a rebuttal article, Kettler (2016) indicated the researchers conducted the study to support the reauthorization of the NCLB (2002) policy, precisely to determine whether gifted education improves achievement. According to Kettler, this single study (Bui et al., 2014) of one district in Texas guided the national educational policy for gifted students. Bui et al. (2014) claimed that data supported that GT programs produced limited academic improvement in GT students compared to GT students, not in magnet programs. Therefore, Bui et al. concluded reducing opportunities for GT magnet programs would not cause harm to GT students. The only federal funding for gifted students under the NCLB (2002) came under the Javits’ Act—a gifted education research grant established in 1988 to support the education of gifted elementary and secondary students (Beisser, 2008).

Yeung (2014) argued that as a nation, society celebrated athleticism and attractiveness but marginalized gifted students within the U.S. education system. Throughout the literature, researchers have defined gifted education as something elitist and not for every child (Scot et al., 2009; Yeung, 2014). Current policy (e.g., ESSA, 2015) mandates leaders of individual states should identify gifted students, support teachers and principals in identifying gifted students, and provide appropriate instruction. Bui et al. (2014) posited that program leaders of gifted students did not improve the educational experience for gifted students. Only 20% of all school districts have received funding for gifted education, and up to 5% of the school population is gifted, with many children being left behind (Bhatt, 2011; Yeung, 2014). Based on the limited fiscal or legal support for gifted education, it appears that common opinion in the United States concludes

gifted students will succeed without extra fiscal or curriculum support (Beisser, 2008; Scot et al., 2009; Yeung, 2014).

## **Summary**

Gifted students comprise less than 5% of the student population, and no federal law exists requiring policy or funding for gifted children at the state level (Bhatt, 2011). Further macrosystem factors include that gifted education lacks a national definition and legislative support in both policy and funding. Laws and funding vary widely across the United States, from fully funding gifted education to not being funded at all. Some states require specialized instruction for gifted students, even requiring individualized education plans. Other states do not require any specialization at all. This lack of national consistency ensures gifted students do not all receive the same type of rigorous instruction needed to meet their academic needs (Bhatt, 2011; Bui et al., 2014; Yeung, 2014).

Within the microsystem of the home, parents of gifted students believe they are the best resource for the education of their gifted children (Bhatt, 2011; Bui et al., 2014; Yeung, 2014). This parental belief may, at times, cause conflict with the home-school relationship within the mesosystem; parents may not recognize the efforts that the school leaders make for educating their gifted children. Parents of gifted children may only focus on their children's academic success, ignoring other important areas for growth, such as peer relationships (Garn et al., 2010; Raty & Kasanen, 2013).

Gifted children recognize that they differ from other children. They are happiest academically when placed with similar peers. Gifted children may mask their academic gifts in regular education classes to seem more like ungifted peers (Bhatt, 2011; Bui et al., 2014; Yeung, 2014). This masking may influence how a teacher perceives the gifted child in the classroom.

Teacher beliefs and attitudes shape the microsystem of the classroom environment. Teachers may believe gifted students have a right to an education but may not feel effective in providing those challenges. Teachers may perceive gifted students as not needing the same time and attention as ungifted students. Gifted students may challenge teacher feelings of efficacy because they may make the same measurable gains as their ungifted peers.

Further research is needed to understand how teacher efficacy can support gifted students. The next section outlines a research plan to understand teacher attitudes about gifted students within the problem of practice. By developing an understanding of teacher attitudes and beginning to understand teacher feelings of efficacy with teaching gifted students, leaders can create supports for teachers to meet the needs of high achieving students.



## **Chapter 2: Empirical Examination of the Factors and Underlying Causes**

The research review showed that the most important factor for student success was the classroom teacher. Teachers who hold negative beliefs or attitudes about a student population, specifically gifted students, create a classroom environment that inhibits student academic growth (Archambault et al., 1993; Szymanski et al., 2018). Teachers may believe all children have a right to an appropriate education, but teacher attitudes about giftedness and gifted education vary (McCoach & Siegle, 2007). Teacher beliefs are a relatively stable trait, where attitudes may change situationally (McCoach & Siegle, 2007). Beliefs are cognitions; attitudes are feelings (Szymanski et al., 2018). For example, teachers may believe gifted children deserve appropriately challenging work, but teachers may have a negative attitude about planning for that work (Reback, 2008; Scot et al., 2009).

Further, without significant exposure to gifted learners, teacher beliefs are built on societal constructs and myths about gifted students (Carman, 2011; Szymanski et al., 2018). Beliefs in cultural myths about students can lead to stereotyping and limiting expectations for the child (Carman, 2011; Rist, 1970). Because attitudes are unstable, a challenge emerges when trying to construct a reliable and valid tool to measure teacher attitudes about gifted learners (Bégin & Gagné, 1994b; McCoach & Siegle, 2007; Szymanski et al., 2018).

The research showed the problem of practice that teachers might lack the training they would need to support gifted learners in the classroom, which would lead to gifted students wanting more challenging coursework, and it might inhibit the gifted learner from working to their potential (Carman, 2011; Geake & Gross, 2008; Meier et al., 2014). Therefore, this needs assessment researcher sought to understand more about teachers' beliefs and attitudes and what, if any, influence those beliefs and attitudes had on the learning of gifted students.

## **Context of the Study**

The study included elementary teachers of Grades 3 through 5 in a large suburban elementary school. All participating teachers had students who were identified as gifted in their classes. All teachers had received training in prior years on different types of instructional strategies and curriculum to use with gifted learners, with a focus on reading and math. Some examples of the curriculum included Jacob's Ladder and William and Mary, as language arts curricula, and Hands on Equations and Mentoring Mathematical Minds, as mathematics curricula. Also, teachers had training on strategies, such as Questing for Quality Questions—a discussion-based program that supports teachers in developing questions for students to interact with text and make inferences and connections beyond the text. By understanding teachers' beliefs and attitudes, a complete understanding of the student experience was understood.

## **Purpose of the Study**

The purpose of the study was to understand how teacher attitudes in the current context, a large suburban elementary school, influenced underachievement in students who are gifted. The needs assessment showed if the factors and causes in the research applied to the current context.

## **Research Questions**

Developing an understanding of teacher attitudes toward gifted students showed an opportunity to understand one variable in students' underachievement (see Emerick, 1992; Kitantas et al., 2017). The researcher answered the following questions:

1. What attitudes and beliefs about gifted students do elementary teachers hold?
2. How do these attitudes and beliefs influence how gifted children are taught in regular education elementary classes?

## **Method**

The researcher used an explanatory sequential research design (Creswell & Plano Clark, 2018). This design was the best selection because the qualitative phase occurred following the quantitative phase. Additionally, the quantitative results were used to develop the interview questions for the qualitative phase (see Creswell & Plano Clark, 2018). The quantitative survey measure included 20 questions organized by three subscales, as detailed later in the methods section. The qualitative teacher semi-structured interviews were conducted after the survey and used for a more in-depth look at the constructs from the survey. Detailed interview procedures and questions follow in the methods section.

## **Participants**

All participants taught in the researcher's large suburban elementary public school. The selection of participants was determined by inclusion criteria. The participants (Table 3) included tenured teachers of Grades 3 through 5, with previous experience teaching gifted students in the school. All participants had attended district level training for gifted learners, but none had attended conferences specifically about gifted learners. The participants for this relevant sample all had gifted students assigned to their homeroom classes. In the school, all the classes were heterogeneously grouped, meaning that students of varying ability levels were placed in each class.

The participants for the survey included 12 elementary teachers; all were white and only one participant was male. The school had an enrollment of 697 students in Kindergarten through Grade 5. Only one participant had a specialized certificate in gifted education. Table 3 presents the teacher participant demographics. All participating teachers taught language arts. Students

were identified as gifted in mathematics and language arts only. Identification information was provided only to those content areas.

Table 3

*Teacher Demographic Data*

Grades	# Years teaching at this grade level	Subjects taught	Gender
Grade 3	3 > 5 years	Reading- all teachers	4 Female
	1 < 5 years	Math- two teachers	
		Science- one teacher	
		Social Studies- one teacher	
Grade 4	2 > 5 years	Reading- all teachers	3 Female 1 male
	2 < 5 years	Math- two teachers	
		Science- one teacher	
		Social Studies-one teacher	
Grade 5	3 > 5 years	Reading- all teachers	4 Female
	1 < 5 years	Math- two teachers	
		Science- one teacher	
		Social Studies-one teacher	

## Instrumentation

**Teacher Attitudes Scale.** The Opinions About the Gifted and Their Education instrument developed by Bégin and Gagné (1994a) continues to influence the development of measures to determine how teachers feel about gifted learners (Carman, 2011; McCoach & Siegle, 2007; Öztürk & Fıçıcı, 2014). The original scale was designed to measure attitudes about giftedness in adults and included 60 questions using a Likert scale from 1 (*strongly agree*) to 7 (*strongly disagree*). Initially, Bégin and Gagné (1994a) recognized the limits to validity between the measure and related constructs, specifically teacher attitudes toward gifted students. Using regression analysis, the researchers discovered strong connections between SES and contact with giftedness as the strongest predictor of attitudes toward gifted students (Bégin & Gagné, 1994a, 1994b).

Researchers have claimed the constructs of SES, the too-broad contacts with gifted students, and the results would not transfer to different populations, thereby threatening both the reliability and construct validity of the study (Bégin & Gagné, 1994b; McCoach & Siegle, 2007;

Öztürk & Fıçıcı, 2014; Szymanski et al., 2018). McCoach and Siegle (2007) not only revised the name of the measure but also reduced the number of questions and reorganized the measure to increase the construct validity of the Teacher Attitudes About the Gifted Scale using three subscales: support, elitism, and acceleration. By creating the subscales, McCoach and Siegle (2007) found statistically significant correlations between the subscales. Support included questions to determine how the participant feels about funding for gifted education. Elitism contained items to determine if the participant considered gifted education exclusive (i.e., not something that could be available to all children). In the elitism, construct questions showed if gifted identification had a negative connotation. A low score on this subscale indicated teachers defined gifted education as an entitlement. The third subscale, acceleration, showed the respondents' opinions about grade skipping for advanced students (Table 4).

Table 4

*Teacher Attitudes About the Gifted Scale*

Construct	Items
Support	5
Elitism	6
Acceleration	4

*Note.* Adapted from “What Predicts Teachers' Attitudes Toward the Gifted?” by D. B. McCoach and D. Siegle, 2007, *Gifted Child Quarterly*, 51(3), p. 246. Copyright 2007 by Gifted Child Quarterly. Adapted with permission.

The Teacher Attitude About the Gifted (McCoach & Siegle, 2007) subscales had construct reliability and could be used independently. Even with critical analysis of the validity of the scale in its' entirety, the Teacher Attitude About the Gifted Scale continues as the most widely used instrument to support research in this area. Gagné (2018) cautioned using the scale in its entirety and proposed more research to continue to support the validity of the measure. Gagné (2018) indicated the measure “constitutes an important way to better understand the environment in which we aim to invest our programming energies. But, we need to proceed with methodological structure and careful planning” (p. 15). Therefore, for this study, the subscales of

support and elitism were used to build an understanding of the teachers' attitudes about gifted education in the current context.

The McCoach and Siegle (2007) subscales of elitism and support combined with the Determining Attitudes Toward Ability (DATA) subscale of focus on others (Szymanski et al., 2018) served as the measure of teacher attitudes about gifted learners. Both scales had a Likert survey, again from 1 (*strongly agree*) to 7 (*strongly disagree*). The 14-item survey took the participants approximately five minutes to complete.

**Interviews.** Following survey collection, each teacher participant received an invitation to participate in a one-to-one, semi-structured interview. The interviews lasted no longer than 15 minutes and were held at a neutral setting outside of the school day. The construction and order of the interview questions built on the constructs from the initial Teacher Attitudes About Gifted Education survey. The development of the initial five questions emerged from the initial survey. The follow-up questions evolved organically from the researcher's need to understand or probe more from each interview (Appendix D). Table 5 shows the interview question, construct measured, and example follow-up questions.

Table 5

*Question Examples*

Question	Construct measured	Example of follow-up questions
How would you define giftedness?	Elitism	Are you saying tests identify only certain types of giftedness? What parts of testing lend themselves to that?
Do you think gifted education is a privilege?	Elitism	No follow-up questions
Do you think grouping gifted students helps you as a teacher?	Focus on others	No follow-up questions
What has prepared you to teach gifted learners?	Support	What would increase your competency in teaching gifted learners? What are some supports or resources you would need as a teacher of gifted students?
What are the best opportunities for gifted students to learn?	Support	Do you think it's hard to develop rich questions? How do you know if they are making progress?
When do you feel most effective teaching gifted students?	Support	How do you plan for advanced learners? Are there times you feel ineffective?

**Data Collection**

Following IRB approval from both Johns Hopkins University and the practitioner-researcher's school district, recruitment of participants occurred during a spring faculty meeting. The researcher introduced the purpose of the study as identifying teacher attitudes about gifted students. After introducing the study goals and the opportunity to participate, the practitioner-researcher stated participation in the study was voluntary and assured the teachers that in no way would the data be used as part of the district mandated teacher rating process. The participants received the informed consent provided by Johns Hopkins University and had time to review the document.

The teachers agreeing to participate were instructed to notify the reading specialist. The reading specialist then sent out the survey link on Google docs to the teachers using district email. The selection of Google docs was purposeful as all participants were familiar with that format. By having participants retrieve the link from the reading specialist, the practitioner-researcher did not know which teachers elected to participate in the online survey. This step

preserved the anonymity of the participants and helped reduce the possibility of perceived coercion as the practitioner-researcher was the assistant principal in the same school as the teacher participants. Eleven out of the 15 eligible teacher participants volunteered to participate and completed the online survey. Table 6 shows the timeline used for the needs assessment data collection and analysis.

Table 6

*Timeline*

Date	Action
May 5, 2018	Propose survey participation to staff, request participants
May 6, 2018	Participants receive an online survey code from the Reading Specialist to protect anonymity.
May 12- June 6	Participants complete online survey Teacher Attitudes About Teaching Gifted Students
June 15	Request district permission to conduct teacher interviews
June 30	Permission granted
July 2018	Interviews conducted at the local library using questions based on the initial survey Teacher Attitudes About Teaching Gifted Students
August 2018	Data analysis

Following the initial survey, it became evident more information in the form of interviews would address the research questions. The practitioner-researcher submitted an addendum to the district to secure permission to add interviews to the study. Following receipt of acceptance of the addendum from the district, five participants volunteered to engage in an interview to develop an understanding of teachers' attitudes toward gifted learners further. Recruitment occurred through emailing all teachers in Grades 3 to 5, asking if they participated in the online survey and would be willing to participate in an interview. If they were interested, they were asked to contact the practitioner-researcher directly.



Each teacher agreeing to the request participated in a semi-structured individual interview at the community library. The purposeful selection of the library allowed a neutral place for the researcher and participant to meet. A core of five pre-planned questions (Appendix A) guided the interviews, and follow-up questions evolved during the interviews. The researcher recorded interviews to listen and engage with each participant actively. The transcription and coding of the interviews occurred following each interview. Attempts were made to mitigate any possible biases. Biases from the participants could have come from attempting to enhance their answers to support the aim of the study. The development of interview questions and follow-up questions attempted to address answer bias.

## Data Analysis

**Quantitative.** The completed survey responses were uploaded to Excel by the practitioner-researcher. Due to the small sample size ( $n = 11$ ), only descriptive statistics were applicable. Refer to Table 7 for the calculated mean, median, and mode for each subscale. All participants taught language arts. Descriptive statistics showed the teachers of science and social studies had less favorable attitudes toward gifted education (see Table 7).

Table 7

### *Descriptive Statistics of Survey Results*

<i>Subscale</i>	<i>Mean</i>	<i>Median</i>	<i>Mode</i>
<i>Support</i>	3.32	2	1
<i>Elitism</i>	5.81	6	7
<i>Focus on others</i>	5.33	6	7

**Qualitative.** Following the collection and analysis of survey data, the interview questions were developed from the survey questions to support the findings from the survey. The semi-structured interview included a core of five questions, and then additional follow-up questions

were used as needed to clarify the participants' responses or provide more detailed responses. Each interview lasted approximately 10 minutes. Each interview was recorded, and the results were transcribed into a Word document. Because the interview questions were based on the combined Teacher Attitudes and DATA scales, a priori coding consisted of elitism, support, and focus on others. Initial deductive coding consisted of highlighting keywords and phrases in different colors to align with the a priori codes of elitism, focus on others, and privilege (see Miles, Huberman, & Saldaña, 2014). Repeated readings of the interviews allowed different themes to emerge (see Miles et al., 2014). The researcher used a priori coding and emergent coding to discern themes from the data (see Miles et al., 2014).

Table 8 shows examples of the a priori and emergent codes and themes. Following coding for those constructs included in Table 8, other codes began to emerge. Those codes included training on gifted strategies, efficacy when teaching gifted learners and attitudes toward gifted students.

Table 8

*A Priori And Emergent Codes From Interviews*

Code	Definitions	Examples	Theme
Elitism	Giftedness is only for some students, creates a division between gifted and nongifted.	I think all children should be pushed. If they need specialized instruction, then yes, that is a privilege. It is good to show them off. Everyone should be tough to their level. They have an attitude.	Attitudes
Support	Seeing the need to support academic growth of gifted students.	I can see just regrouping the gifted kids together. They are all in the same thinking process. Reading groups, I can tailor questions to them specifically. You have to make a whole other lesson just for that group of students. This is a disservice; this is wasting their time as well.	Efficacy
Focus on others	Supporting gifted students is at the expense of others.	It is hard to keep those kids on pace with gifted. I've got to get to everybody. You can't spend too much time with the high kids.	Efficacy
Professional development (PD)	Types of formal and informal opportunities teachers have had on teaching strategies specific to gifted students.	Jacob's Ladder. Socratic Seminar. Modeling. M3. M2. Coaching. Peer discussions.	Training
Prepared	How well teachers feel they can meet the educational needs of gifted students.	Not at all. A little bit. Put bits and pieces together. Adapt special education PD to gifted Not enough training PD would be good; I don't feel 100% I feel inadequate.	Efficacy
Attitudes toward gifted students		Kid are at a disadvantage. Always focus on the low. You are developing their skills. I'm not really teaching them anything. They have a little attitude. They need as much help as anybody. Glad my child is just average. It's rewarding. It makes you feel good as a teacher.	Attitudes

**Summary of Results**

The researcher built an understanding of the attitudes that teachers held about gifted students and how those attitudes and beliefs influenced how those teachers educated gifted elementary children in regular elementary classes. The survey and interview questions focused

on three subscales, elitism, focus on others, and attitudes about gifted education. By looking at the data from both qualitative and quantitative sources, the summary of results is organized by the research questions.

**What attitudes and beliefs about gifted students do elementary teachers hold?** All interview participants shared a unique definition of giftedness. Most claimed giftedness could be something outside of academic subjects ( $n = 5$ ). Some ( $n = 4$ ) indicated that gifted students required specialized instruction. One teacher contended during the interview that the process of identifying gifted students should be the responsibility of the teacher, and they should not rely solely on standardized testing. All ( $n = 5$ ) believed that giftedness required teachers to instruct beyond the curriculum and that gifted learners should be taught to their levels.

On the subscale of elitism, data showed an alignment between positive teacher attitudes about gifted education ( $M = 3.32$ ) and negative opinions of gifted education as an elitist method ( $M = 5.81$ ). Together, these two means showed teachers thought positively about gifted students overall and did not think gifted education was elitist or excluded students purposefully. Examples of the subscale included the following:

1. Gifted children may become vain or egotistical if they are given special attention.
2. The gifted are already favored in our schools.
3. When the gifted are put in special classes, the other children feel devalued.

Previous studies using the Teacher Attitude Scale indicated a mean score of 1 was high for elitism and represented a more positive view of gifted education (McCoach & Siegle, 2007). Therefore, the initial results of the survey data means remained consistent with previous research, lending validity to these results.

When asked during the interviews if gifted education was a privilege, a variety of opinions emerged. The participants emphasized that students deserved to be taught at their levels, and instruction should be differentiated to meet the needs of individual learners. One participant claimed, “I don’t think it’s a privilege, I feel like it’s their right.” Another stated, “Specialized instruction should be available to any child that needs it. If they need specialized instruction on the gifted end, then yes, I guess that is a privilege then.” These statements indicated that teachers believed gifted students deserved to have specialized instruction to meet the individual needs of the child.

Teachers indicated a neutral attitude on focus on others, using 1 (*strongly agree*) to 7 (*strongly disagree*;  $M = 5.33$ ). This subscale included the following statements:

1. Gifted education is a right.
2. The mastery of basic skills is more critical than letting a few students get further and further ahead.
3. Funding for gifted education reduces the amount of resources available for students who need accommodations for other special needs.

Survey participants strongly agreed that gifted education was a right ( $M = 1.34$ ). However, they did not show the same agreement when responding that mastery of basic skills was more critical than letting advanced students work farther ahead ( $M = 5.5$ ). These results might indicate a misalignment in the attitudes that the teachers held about gifted education as compared to regular education students.

During the interviews, the participants stated they needed to focus more on students at or below grade level, knowing it could be at the expense of gifted students receiving direct teacher

instruction. The participants claimed they needed to spend time on struggling students, instead of providing a challenge for the gifted students.

The support scale on the survey measure included five questions. Sample statements included the following:

1. Our schools should offer special education services for the gifted.
2. The gifted need special attention to fully develop their talents.
3. Since we invest supplementary funds for funds for children with difficulties, we should do the same for the gifted.

Overall, subscale results indicated the teachers believed gifted education should be supported ( $M = 3.32$ ). The participants strongly agreed that school leaders should offer special education services for gifted students ( $M = 1.9$ ), and gifted students should have supplementary funding to support their unique needs ( $M = 1.18$ ). The participants also agreed that tax money should be used to help support the needs of gifted students ( $M = 6.45$ ). During the interviews, the participants noted having some resources to meet the needs of gifted students, citing Jacob's Ladder and William and Mary for language arts and M3 for mathematics.

**How do these attitudes and beliefs influence how gifted children are taught in regular education elementary classes?** Although the participants believed gifted children had a right to an education, the teachers did not feel as strongly about providing that education in their classrooms. During the interviews, one teacher stated she did not spend as much time on advanced learners compared to those at or below grade level:

My tops are not my focus... you say you aren't pulling them they get so bummed, and you can see it on their face. Sometimes, I feel like instead of doing one thing well, I'm doing every little thing and not to the best of my ability.

This teacher wanted to focus on her advanced learners but knew the focus was on supporting the other students.

Another teacher stated, “It’s kind of sad, but my daughter is average and I’m OK with that because if she was like really high, I don’t know what would really be done for her.” These responses indicated that the interviewed teachers recognized their responsibilities for gifted learners, but the instructional focus remained on students working at or below grade level. One participant stated that a resource teacher for gifted students offered to plan with teachers, but no one at the school took her offer because classroom teachers were already overwhelmed with planning. These statements showed teachers understood resources were available, yet teachers were unwilling to use those opportunities.

The survey results might show that these participants were unaware of programs for gifted students. During the interviews, the participants did not indicate they had received any required training for working with gifted learners or any specific coursework during teacher preparatory programs or graduate studies. The participants identified they worked with other colleagues or had to “figure it out myself” on how to support gifted students. Further, all participants remarked they were frustrated at the lack of curriculum and support for gifted students within the classroom. One participant stated, “I feel like it puts the kids at a disadvantage because they aren’t getting the best instruction.”

Finally, aside from training, teacher efficacy included the following question: When do you feel most effective teaching gifted students? All participants maintained they could teach gifted students in small groups, with instruction at the children’s level. However, three of the interview participants stated they did not feel effective because district policy did not require teachers to assess reading levels throughout the school year on advanced learners; therefore, they

did not know students' level when they entered the classroom and if they left at the same or higher level. For example, follow-up questions regarding efficacy included the following: How do you know if gifted students are making progress, and what are the best opportunities for gifted students to learn? One teacher stated, "You do not. It's like once they've reached the point, they've got it, they are good. You really don't know if they decrease. Once you hit the target, you are good." Four teachers stated they felt effective when gifted students struggled because the struggle showed they were being challenged.

Like survey data, the teachers explained during their interviews that they preferred to group gifted students together to allow the students the best opportunities to learn. However, teachers reported they did not always have the time to dedicate to working directly with the gifted students because of the district's strategic plan to support the advancement of struggling students.

Additionally, the participants cited a lack of resources needed to support the gifted students in their classrooms. The participants spoke of curriculum supports in the past tense, indicating those resources no longer supported instruction. For example, "We used to have Jacob's ladder. It was like one book for all of us to share, but we had something." The required curriculum appeared to hinder efforts to reach gifted learners. One teacher stated, "You have to get grades. Once you do that, then the gifted kids can go do something extra at a center or something." This statement showed the teacher's feelings that gifted students must complete grade level work before moving on to challenging work.

**Conclusion.** The purpose of the needs assessment included finding support for the following questions:

1. What attitudes and beliefs about gifted students do elementary teachers hold?



2. How do these attitudes and beliefs influence how gifted children are taught in regular education elementary classes?

Teachers in the current study suggested they did not meet with higher learners because they knew the gifted students had already mastered the material presented. In a qualitative study, Scot et al. (2009) noted common concerns, specifically that standardized testing had created a situation where gifted students did not receive an appropriate education because of high-stakes testing and the pressure on teachers to move struggling students to meet grade level expectations. Reback (2008) found low-performing students demonstrated greater academic achievement when teacher ratings depended on student success. Students performing above standards lost points on standardized tests when teachers focused on less-academically strong peers (Reback, 2008). The same themes emerged from teacher interview data. The participants explained that nothing was done for gifted students, being glad their personal children were average so that they would get teacher attention, even stating they knew the advanced children could work independently because the struggling students were being measured for academic growth.

Across the interviews, the participants claimed they lacked adequate training to meet the needs of gifted students. A misalignment between training in gifted curriculum and teacher efficacy in implementing those strategies emerged. All participants engaged in professional development for William and Mary, M3, Jacob's Ladder, Socratic discussion, and quality questions for gifted and advanced learners. However, during the interviews, the participants stated they did not feel they were adequately trained. They discussed a lack of resources, including time, and not feeling competent in their abilities to meet the needs of their advanced learners. It was unclear from the data why the participants believed they had inadequate training

or access to materials to meet the needs of the gifted students in their classes. Supporting teacher efficacy and addressing concerns of time should provide the focus for the intervention.

### **Limitations of the Study**

There were limitations to this needs assessment. The sample size included only 11 participants from one elementary school. One participant admitted to being confused by the scale; consequently, those answers might have skewed the data. The only demographic information collected included the subject area taught. Perhaps understanding how much experience the participants had with gifted learners would have been beneficial to collect, as well.

Another limitation was the role of the practitioner-researcher and the participants. Although the participants did not provide any identifying data, answers could be inflated based on a possible desire to help the researcher who served as a school administrator. All participants were aware of the researcher's goal to understand more about gifted learners in the school context. The participants might have chosen to answer more favorably, believing that would somehow help the study. One participant made this admission to another staff member in a public conversation outside the researcher's office door.

### **Elaboration of Context Based on the Study**

The results indicated that although the teacher participants valued gifted education, the teachers expressed their lack of training and support to meet the needs of gifted learners. Teachers require support to not only recognize gifted behaviors but to also provide appropriately challenging tasks to their gifted learners (Geake & Gross, 2008; McCoach & Siegle, 2007; Scot et al., 2009). Leaders have used the current district model to identify gifted students, but it provides limited ongoing supports for teaching staff following gifted identification. Professional

development opportunities exist but are not compulsory. Teachers move students to grade level standards, yet limited monitoring exists for those already beyond grade level standards. The participants recognized they did not meet the needs of the gifted learners but must focus on others to document growth. The participants believed gifted students had a right to an appropriate education, yet the participants did not feel prepared or supported to provide that education. The current study showed gaps within the gifted learner service delivery model and teachers' concerns regarding their efficacy in teaching gifted learners.

The next chapter reviews the literature to support teacher efficacy, specifically when instructing gifted learners. The literature review shows the models of teaching gifted learners and evaluates the success of the studied interventions. The goal considers supporting teacher efficacy while instructing gifted learners while not taking time away from district and state expectations to move learners to meet grade level standards.

### **Chapter 3: Intervention Literature Review**

Nationally, those in the U.S. education system believe in equity and opportunity (Gallagher, 2015). The national education policy reflects what society values (Gallagher, 2015). Gifted students need access to appropriate instruction in the same way as their ungifted peers (Gallagher, 2015). Yet, the opportunities afforded to ungifted students do not exist for gifted children (Gallagher, 2015). This inequity could be, in part, because U.S. society does not believe gifted students need support because gifted children are already performing above expectations (Gallagher, 2015). Teachers may believe gifted students have a right to an education (Bégin & Gagné, 1994a); however, teachers may doubt their efficacy in meeting the needs of gifted children (Carman, 2011; McCoach & Siegle, 2007).

Based on the needs assessment findings, teachers believed teaching gifted students at the gifted students' level was at the expense of other students' learning, and gifted students were already advanced; therefore, they did not need teacher support to grow academically (see McCoach & Siegle, 2007; Szymanski et al., 2018). Teachers may not feel effective in teaching gifted learners because they do not see measurable academic gains (Carman, 2011; McCoach & Siegle, 2007). Without meaningful tasks, gifted learners may avoid completing assignments, feel unchallenged, and feel disrespected by their teachers (McCoach & Siegle, 2007; Young & Balli, 2014).

The needs assessment data presented in Chapter 2 included qualitative and quantitative measures to show the teachers' beliefs and attitudes about gifted children in a large suburban elementary school. The teacher participants maintained positive attitudes toward gifted students. A common theme was that the teachers believed teaching gifted students took time away from teaching other children, and the teachers lacked the time to plan for gifted students (McCoach &

Siegle, 2003, 2007). The teachers acknowledged they had enough training in instructional strategies specific to gifted learners but did not feel effective at implementing those strategies. Therefore, the focus for the intervention review was on how to support teacher efficacy in implementing strategies with gifted students.

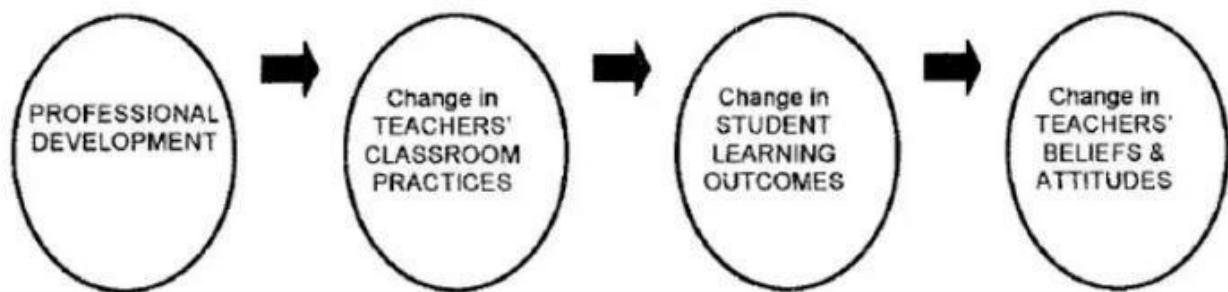
Guskey's (2002) model of teacher change indicates that the process of improving changes in teachers' classroom practices begins with PD. The following literature review shows the characteristics identified as most important for PD. Borko (2004) determined that teachers should be engaged as learners to support the success of PD efforts. The professional learning needs to be sustained, engaging, and elicit teacher buy-in to be successful (Campbell & Malkus, 2005). When teachers see that students have made progress, teachers begin to feel more confident in their pedagogical knowledge and believe in the methodologies used (Borko, 2004; Garet, Porter, Desimone, Birman, & Yoon, 2001; González & Skultety, 2018).

### **Theoretical Framework**

Guskey's (2002) model of teacher change was the theoretical framework for this study, supporting change in teaching practices, which could then lead to shifts in teacher attitudes and beliefs. This researcher developed an understanding of how professional development could influence student learning and teacher attitudes and beliefs. Guskey used the model to depict a uni-directional model of how PD could change classroom practices. Changes in student learning outcomes may occur, and student learning may support changes in teachers' attitudes and beliefs (Figure 3).

Teachers feel most effective when measurable student growth occurs (Hong et al., 2011; Prast, Van De Weijer-Bergsma, Kroesbergen, & Van Luit, 2018). During the needs assessment interviews, the teachers remarked they did not know if the gifted students made progress, and the

teachers felt inadequate professionally because they could not measure growth. Some researchers have linked teachers' professional efficacy with student achievement (Dixon, Yssel, McConnell, & Hardin, 2014). The current district policy to focus on students who read at or below grade level restricted teachers' abilities to implement skills from PD. The teachers did not measure changes in GT students' learning outcomes. Because the teachers did not see a change in student learning outcomes, the teachers' beliefs and attitudes did not change to justify dedicating more time to supporting GT students.



*Figure 3.* Guskey's (2002) model of teacher change. Teacher change in attitudes occurs only after teachers see a noticeable change in student academic achievement. Model used with permission.

The model of teacher change (Guskey, 2002) aligned with Bandura's (1986) social cognitive theory. The principals of social cognitive theory included people interacting with their environments based on their perceptions, the outcome they expected, and other environmental factors (Bandura, 1986). Self-efficacy is grounded in people thinking they have the knowledge and ability to accomplish a task, often based on previous success or failure (Bandura, 1986). Researchers have shown that teachers with more experience in the classroom feel more successful in adopting new strategies (Dixon et al., 2014; Prast et al., 2018). Aligning with Guskey's (2002) model, as teachers change classroom practices and see changes in student outcomes, teachers may change their attitudes and beliefs.

Gibson and Dembo (1984) built on Bandura (1977) to define teacher efficacy in relation to Bandura's theory of self-efficacy. In a three-phase study of 208 elementary teachers, the participants with high feelings of an internal locus of control believed they had a greater effect on student achievement than external factors (Gibson & Dembo, 1984). Highly effective teachers planned lessons to keep students engaged, and these teachers could better manage disruptions in routines than teachers with low professional efficacy (Gibson & Dembo, 1984).

In sum, not all teachers are equal, and a standardized curriculum does not make teachers equal (Jensen, 2001). Some teachers are more adept and confident than others. Therefore, when developing a professional learning intervention, a researcher should make efforts to consider how the intervention may affect teacher efficacy (Dixon et al., 2014).

### **Literature Synthesis**

Using Guskey's (2002) model for teacher change as a framework for the literature review began with best practices in professional development. During the focus group interviews, the teachers claimed they had professional development in gifted strategies but did not feel competent in implementing the strategies. The teachers' feelings could, in part, be explained by current models of professional development that did not align with best practices for professional learning, as presented in the literature.

In addition to the research on professional development, this review shows classroom practices, such as differentiation, and the use of professional goals. The participant teachers understood the need to differentiate for gifted learners, according to the needs assessment survey data. However, they were unsure how to meet the needs of gifted learners when the local school district leaders focused on students at or below grade level. Also, in the current context, the teachers must create professional goals but focused on students at or below grade level. By

understanding the power of how professional goals can change classroom practices, the literature shows support for using goal setting, including differentiation, as a tool to affect change for student learning behaviors (Guskey, 2002).

**Effective professional learning.** Effective professional learning must allow for active participation, remain sustained and coherent, focus on specific content, and provide opportunities for teachers to participate in groups (Desimone & Garet, 2015). Further, Darling-Hammond, Hyler, Gardner, and Espinoza (2017) suggested effective professional learning provided coaching and time for reflection on feedback. Successful professional learning can create changes in pedagogical delivery and student achievement in the classroom (Darling-Hammond et al., 2017).

Active learning requires participants to try or engage in the professional learning session in ways that may mirror implementation in the classroom (Darling-Hammond et al., 2017). Active learning is different from traditional lecture approaches because participants become immersed in the learning opportunity in the same way as their students (Darling-Hammond et al., 2017). Desimone and Garet (2015) posited that active learning changed teaching procedures or routines, not necessarily teacher knowledge or skill. Changes in behaviors are easier to shift than skills or knowledge (Desimone & Garet, 2015).

In a qualitative study of an unidentified number of teacher leaders, policymakers, and key stakeholders interviews, Jensen (2001) compared different models of professional learning across British Columbia, Hong Kong, and Singapore to understand how professional learning looked in different schools. The differences between professional learning for teachers internationally and the United States included international teachers directly connecting strategy implementation to student academic data, and a focus on continuous incremental improvement (Learning Forward,



2016). Jensen (2001) defined continuous improvement as dedicated weekly time for professional learning and collaboration between teachers, administration, and policymakers.

Professional learning must occur over time, with opportunities for teachers to practice the new teaching behavior with colleagues to increase the likelihood that they will implement it with their students (Darling-Hammond et al., 2017). When professional learning is linked to lessons that immediately follow the learning opportunity, measurable gains in student achievement occur (Desimone & Garet, 2015). When there is a misalignment between the professional learning and curriculum content, teachers are less likely to implement the new strategy, or they may find the strategy difficult to implement (Desimone & Garet, 2015).

In a national online survey, 6,300 teachers from elementary through high school responded to a questionnaire about their professional learning. The participants completed the Standards Assessment Inventory (Learning Forward, 2016) to share their thoughts on professional learning. Overall, 75% of the teachers reported that their school districts were committed to professional learning, but principals or other school leadership determined the learning opportunities (Learning Forward, 2016). Furthermore, 25% of teachers responded they did not feel they had the time or feedback necessary to implement new strategies successfully (Learning Forward, 2016).

Based on studies of professional learning, teachers need professional learning aligned with curriculum content that mirrors how they teach in the classroom and shows measurable student progress (Desimone & Garet, 2015; Jensen, 2001; Learning Forward, 2016). When teachers see student progress, they will continue to implement new strategies according to the model of teacher change (Guskey, 2002). Another method to support teachers on how to apply professional learning within their classrooms involves setting professional goals.

**Professional goals.** When teachers change practices by implementing a newly learned instructional strategy, goal setting can be a powerful tool to increase teacher efficacy and success of the strategy (Hughes, Wu, & West, 2011; Pajares, 1996). As teachers set a goal and observe improvements in student performance or reflect and measure student growth, teachers' attitudes and beliefs may change (Guskey, 2002; Mezirow, 1978).

Hughes et al. (2011) conducted a longitudinal to understand the correlation between teachers' goal practices and underperforming students' behavioral engagement. The participants included second- through fifth-grade teachers of 497 underperforming students, as defined by state assessments of literacy, across three Texas districts. The second-grade teachers completed the researcher-developed Conscientious and Social Competence Scale. The Conscientious and Social Competence Scale was only appropriate for teachers of primary aged students. The teachers in Grades 3 through 5 completed an 18-item behavior engagement questionnaire developed by the researchers. The participants responded to prompts on both measures using a Likert scale.

All teachers completed the Approaches to Instruction scale (Midgley et al., 2000), which measured performance goal practices of teachers. The participants completed measures in the spring of each school year. Data were analyzed using growth curve models to determine the trajectory of student behavioral engagement and teacher-reported goal practices throughout the length of the study. The teachers reported less student engagement over the four grades (slope = -.036), but student achievement did not vary significantly across the grade levels (slope variance = .019). The teachers did become more goal oriented in each advancing grade (slope = .108). The limitations included using teachers who only reported on perceived student engagement on researcher-created measures and a focus on underperforming students.

A teacher's goal orientation can influence student achievement in the classroom (Hughes et al., 2011). As teachers become more performance oriented by focusing on test scores, low achieving students may become disengaged from the classroom experience and increase their negative behaviors. The results indicated a positive climate when teachers focused on learning supports for positive student behaviors (Hughes et al., 2011).

Gordon, Dembo, and Hocevar (2007) surveyed 113 teachers teaching and taking college classes. The participants completed the Learning Process Inventory, a 26-item Likert survey measuring self-regulatory learning behaviors and a pupil control ideology form (PCI; Goddard, Hoy, & Hoy, 2000). Goal orientation was measured using patterns of adaptive learning (Midgely et al., 1997). Confirmatory factor analysis data showed a significant positive relationship between variables of self-regulation and mastery ( $r = 0.42$ ), as well as control and mastery ( $r = 0.41$ ). Finally, the SEM indicated connections between mastery goal orientation and control ideology, as well as between performance goal orientation and control ideology.

Self-regulated teachers created classrooms where students were encouraged to be more responsible and take control of their learning (Gordon et al., 2007). Teachers with a higher control ideology did not promote self-regulation in students and tried to control student behavior. Teachers with a mastery goal orientation focused more on student learning. The results were similar to Hughes et al.'s (2011) findings that goal-oriented teachers reported students were more engaged and enjoyed learning. Gordon et al. (2007) provided evidence that supported the gap in the research on understanding how teachers educated, rather than how teachers learned. The idea of teachers' goal orientation is discussed later in the chapter (Hong et al., 2011; Hunsaker et al., 2010; Valiandes, 2015).

Like Gordon et al. (2007), Wolters and Daugherty (2007) investigated TSES and classroom goal structure. The participants included 1,024 teachers of prekindergarten through 12th grade in a large suburban district in Texas. Using MANOVA, the results indicated teacher experience but not their academic level had a significant relationship with reported self-efficacy, and no relationship existed between goal structures and experience or academic level. Experience did not change how teachers developed their classroom climates. It was unclear from the results if there was a relationship between goal structures and efficacy with academic level taught. The researchers suggested a more focused study to examine teachers within a grade level or with similar years' experience teaching.

**Goal orientation.** Hoerr (2014) defined goal orientation as an internalized locus of control. Teachers with an achievement goal orientation focus on grades and progress. In contrast, teachers with learning orientation focus more on learning (Hong et al., 2011). Goal orientation is evident in a framework of a hierarchical model of approach and avoidance achievement motivation (Elliot & Church, 1997). In the model, individuals who hold an achievement orientation and feel competent view themselves as more successful than those who set low goals to avoid failure. Based on this idea, teachers with an achievement of goal orientation may be performance-approach oriented because they fear failure but are competent in their craft (Elliot & Church, 1997; Gordon et al., 2007).

In a study of 182 general education teachers, Hong et al. (2011) studied how teachers' knowledge and beliefs affected their classroom instruction. The participants included 117 general education teachers in Grades 3 through 5 and 65 teachers of gifted students in a large urban school district. Survey measures included the EBTL for metacognition (Hong & Nadelson, 2006) and the SAQ for motivation (Hong & Peng, 2008). The results indicated teachers of gifted

learners focused on student learning behaviors, such as questioning or paying attention to task, more than student achievement. Individuals with a mastery goal orientation are more committed to learning than those with performance approach orientation (Elliot & Church, 1997). Students with a mastery orientation focus on learning and not grades (Elliot & Church, 1997; Hong et al., 2011). Having a learning goal orientation is an essential characteristic for gifted students and their teachers, as discussed later in the chapter.

Hong et al. (2011) and Hughes et al. (2011) discussed the need for classrooms focused on learning, not test scores. The teacher participants in Hong et al.'s (2011) study all taught gifted students and had an average of 10 years' teaching experience. In contrast, the participants in Hughes et al. (2011) study taught students working below grade level expectations and had an average of seven to nine years of teaching experience. However, even with the differences in population and experience, focus on learning versus test achievement was prevalent in both studies. As teachers focus more on student learning behaviors and less on test scores, children will succeed (Hong et al., 2011; Hughes et al., 2011). As teachers see children succeeding, teachers feel more confident in their pedagogical abilities (Guskey, 2002; Tschannen-Moran & Hoy, 2001).

Before work by Hughes et al.'s (2011) and Hong et al.'s (2011) studies regarding focus on learning, Butler (2007) reported on two studies to understand how teachers' goal orientation affected student achievement. The participants in the first study included 530 teachers across all Grades from 1 to 12 in 31 schools in Israel. The participants completed the Goal Orientations for Teaching (GOT; Butler, 2007) at the beginning of the school year. The GOT measured teacher goal orientation, including mastery, work avoidance, relationship, and ability. At the end of the school year, the participants completed the Patterns of Adaptive Learning Survey (Midgley et al.,

2000). Confirmatory factor analysis showed reliability of the GOT, supporting the goal of the first study. The teachers with high performance and relational goal orientation maintained positive relationships with students and felt more successful in the classroom. The findings aligned with previous research, indicating a need for classroom teachers focused on student learning and not assessments (Hong et al., 2011; Hughes et al., 2011).

Butler (2007) extended the research in a second study, replicating the first and adding in the student perspective. The participants in the second study included 73 teachers and 1,790 students in Grades 7 through 9 in Israel. Like the first study, Butler had the participating teachers and the students complete the teacher mastery goals subscale of the Patterns of Adaptive Learning Surveys (Midgley et al., 2000) and the GOT (Butler, 2007). Multivariate analysis indicated that the teachers with stable performances and relational goal orientation had students report greater perceived satisfaction in the class. The teachers' perceptions of their instruction inconsistently matched student perception. Students who believed their teachers cared for them and believed they could succeed had a more positive perception of learning. Like Guskey's (2002) model of teacher change, teachers must see student results before teachers will adjust their attitudes and beliefs.

Classroom teachers with professional goals focused on learning and not achievement are beneficial for all students, not just gifted students (Hong et al., 2011; Hughes et al., 2011). Students feel more focused on learning when teachers focus on learning instead of test scores (Butler, 2007). As shown in Guskey's (2002) model, as teachers see changes in students, teachers will continue to change their professional behaviors. Supporting teachers' focus on learning goal orientation is one way to encourage teachers to look at changes in student behaviors.

**SMART goals.** One framework to support teacher goal development includes using specific, measurable, action-oriented, relevant, time-based, engaging and rewarding, or SMARTER goals (Brown et al., 2016). The SMARTER model provided a clear, concise framework for the development of goals (Brown et al., 2016). This model, initially introduced in the business world, is not without limitations. SMARTER goals must remain realistic. Creating a SMARTER goal also aligned with Guskey's (2002) model for teacher change. Teachers create a goal, implement the goal in their classrooms, and observe any changes in their students.

Based on Guskey's (2002) model for teacher change, Reis and Westberg (1994) assessed the concept of SMARTER goals by studying 300 classroom teachers across the county to determine how they utilized curriculum compacting to address the needs of their advanced learners. The teachers identified gifted students, their strengths, and areas for growth, using a template to determine what parts of the curriculum could be skipped over or "compacted" out. The teachers found that by using the templates, they could see areas of growth, therefore creating goals for students. The teachers found that by compacting the curriculum based on the student goals, teachers could eliminate between 45% to 54% of the grade level curriculum for advanced learners. During the semi-structured interviews, the teachers reported engaging in curriculum compacting more often because they could see the positive affects compacting had on student achievement (Reis & Westberg, 1994).

Teachers can use goal setting as a powerful tool to focus on students' learning and teachers' professional behaviors. Teachers can use professional goals to identify a specific area of focus and work on that particular focus (Hong et al., 2011; Hughes et al., 2011; Reis & Westberg, 1994). By focusing on learning over performance, teachers have greater satisfaction with their roles, and students report feeling more confident within classrooms (Hughes et al., 2011).

Further, teacher goal orientation is vital when considering gifted education. Teachers with learning goal orientation are more successful in teaching gifted students (Hong et al., 2011). Gifted elementary students need a teacher who believes in their success and seeks ways to provide opportunities for challenges (Gallagher, 2015; Hong et al., 2011). Another useful method to provide the challenge that gifted students need is through differentiation (Prast et al., 2018). Research reviewed in the following section shows teachers' attitudes and beliefs about teaching gifted students, as indicated in goal orientation significantly influencing student success (Hunsaker et al., 2010; Prast et al., 2018; Valiandes, 2015).

**Differentiation and student achievement.** When teachers receive PD on differentiation, students are more successful (Prast et al., 2018). Differentiation refers to using student data to adapt the curriculum to meet the needs of students (Prast et al., 2018). Prast et al. (2018) conducted a longitudinal study in 30 primary schools in the Netherlands. The measures included a national math test to build an understanding of how PD of differentiation strategies affected student achievement in math (Janssen, Scheltens, & Kraemer, 2005), nonverbal intelligence (Raven, Court, & Raven, 1996), working memory (e.g., the Lion Game and Monkey Game; Van de Weijer-Bergsma, Kroesbergen, Prast, & Van Luit, 2015), and evaluations of implementation of PD based on teacher surveys. MANOVA results indicated a positive correlation between teacher use of PD and student achievement. In Years 2 and 3, no effects from PD were statistically evident in student achievement (Prast et al., 2018). The researchers believed long-term effects were not evident because teachers lost interest, and the PD was not adapted to meet the continuing needs of the teachers.

Dixon et al. (2014) found that the participants needed to engage in PD for 10 or more hours for new strategy implementation to occur. Dixon et al. investigated the impact of PD on



instructional differentiation on teacher self-efficacy with 45 teachers from two neighboring school districts. Data were collected using the TSES and the Teacher Efficacy Scale (Dixon et al., 2014). The researchers analyzed the results from the efficacy surveys using one-way ANOVAs. The results showed a strong relationship between PD and teacher self-efficacy (Dixon et al., 2014). Specifically, PD in instructional differentiation appeared to influence a teacher's sense of self-efficacy positively (Dixon et al., 2014). These results held across grade levels and subjects taught (Dixon et al., 2014). The research results indicated that teachers of mixed-ability classes would experience feelings of higher self-efficacy when they felt more prepared to meet the needs of students at varying levels.

The participants in Prast et al. (2018) and Dixon et al. (2014) reported in survey measures that they needed to feel comfortable with the curriculum to implement differentiation. Therefore, teachers may possess the pedagogical knowledge but lack the confidence or understanding of the curriculum to believe in their abilities to differentiate successfully (Dixon et al., 2014; Prast et al., 2018).

In a study of 24 primary classes in Cypress, Valiandes (2015) conducted a program evaluation to determine the effectiveness of differentiation on student achievement. The teachers participated in two 3-hour training sessions before the onset of the school year and seven additional sessions during the school year to discuss differentiation in language arts classes. Differentiation was measured using the Classroom Observation Scale-Revised (COS-R; VanTassel-Baska, 2012) and a protocol developed by the researcher. Student growth measures included a curriculum-based language arts assessment. Multiple regression analysis showed a positive correlation between differentiation and student achievement. A structural equation model supported findings showing a positive correlation between teacher differentiation in language

arts, specifically with differentiated questions and student achievement (Valiandes, 2015). In contrast to Dixon et al. (2014) and Prast et al. (2018), Valiandes (2015) did not include measures of teacher efficacy. Valiandes concentrated only on confirming the effectiveness of differentiation, as measured by student achievement.

Differentiation is one of the most cited examples of how to meet the needs of gifted students in a classroom (Archambault et al., 1993). Teachers must feel effective at strategies for differentiation (Gibson & Dembo, 1984; Hunsaker et al., 2010). In a seminal study of 3,993 third and fourth-grade teachers within the United States, some researchers studied gifted students' experience in regular education classrooms. The participants completed the 39-item Classroom Practices Survey (CPS; Archambault et al., 1993) to state which differentiation models they used for gifted students and their ungifted peers. The 39 items included six factors: (a) questioning and thinking, (b) providing challenges and choice, (c) reading and writing assignments, (d) curricular modification, (e) enrichment centers, and (f) seatwork. MANOVA results provided evidence that the most common differentiation entailed questioning and thinking. The teacher responses showed they did not make modifications for GT students in the same way as for students at or below grade level, and the teachers provided differentiation for gifted students only once or twice a month (Archambault et al., 1993).

A decade later, a replication of Archambault et al.'s (1993) study occurred in two states, not identified, which included 543 third- and fourth-grade teachers (Westberg & Daoust, 2003). The 543 respondents again completed the CPS, with results mirroring those from the original study (Archambault et al., 1993; Westberg & Daoust, 2003). Using inferential statistics, no differences between factors for gifted and ungifted students were evident. Deviating from Archambault et al.'s (1993) study, Westberg and Daoust (2003) added a qualitative component to

the survey, allowing teachers to add comments about GT programming and classroom factors that influenced instructional delivery. Absent from both Archambault et al.'s (1993) study and the replication by Westberg and Daoust (2003) were measures of teacher goal orientation. However, in both studies and work by Valiandes (2015), teachers cited differentiation with questioning as the most common tool used to meet the needs of gifted students. Across the studies, limited evidence emerged that showed other strategies, such as compacting or project-based learning.

The participating teachers in Westberg and Daoust's (2003) study reported several reasons for how they differentiated within their classrooms. The teachers reported they did not believe they could deviate from the written curriculum, even if students demonstrated mastery. A second reason cited included time. One teacher stated they knew how to meet the needs of gifted learners but could not because of other demands on their time that took away from their planning (Westberg & Daoust, 2003). The teachers' statements aligned with the findings from the needs assessment conducted by the practitioner-researcher, where the teachers reported that they had the knowledge but lacked time to plan for gifted students. Both studies (Archambault et al., 1993; Westberg & Daoust, 2003) showed the classroom practices used with gifted students but did not provide opportunities for teachers to share how they implemented strategies or why they made certain instructional decisions.

Similarly, within the needs assessment interviews, the teachers claimed they had training on strategies for gifted students but felt unconfident about planning to implement the strategies. Finally, the teachers in the Westberg and Daoust (2003) study reported that the school leaders' focus on test scores was a reason to not differentiate. The reporting teachers claimed they needed to ensure students met grade-level expectations and did not believe they had permission to work

beyond grade-level standards, again aligning with findings from this practitioner-researcher's needs assessment (Westberg & Daoust, 2003).

Differentiation is one of the most cited examples of meeting the needs of gifted students in the classroom, either through asking more challenging questions or by providing more challenging work (Archambault et al., 1993; Dixon et al., 2014; Prast et al., 2018).

Differentiation is important for all learners to feel successful in the classroom. Teachers must feel effective at utilizing strategies for differentiation (Gibson & Dembo, 1984; Hunsaker et al., 2010; Valiandes, 2015).

## **Conclusion**

Teacher efficacy is related to pedagogical knowledge and student achievement (Borko, 2004; Garet et al., 2001; Guskey, 2002). PD teaches new strategies to support teacher efficacy. PD must remain engaging, sustained, and have teacher support to be effective (Campbell & Malkus, 2005). Teachers who have a learning goal orientation are more reflective and likely to implement new strategies than those with an achievement orientation (Reis & Westberg, 1994). When teachers set professional goals, it can increase their feelings of efficacy and implementation of PD strategies, including differentiation (Reis & Westberg, 1994).

Teachers may be familiar with strategies to use with gifted learners but do not utilize the strategies to the fullest because they focus on students at or below grade level. One area of need in the research entails supporting teacher efficacy with differentiation for gifted learners (Archambault et al., 1993; Hong et al., 2011). Research indicates that when differentiation is used effectively, all students in a classroom benefit (Hong et al., 2011). Further, students indicate being happier and enjoying learning more when activities match their abilities.

A proposed intervention included using elements of goal setting and resource teacher support to support teacher use of differentiation with gifted elementary students in language arts instruction. As indicated in the Chapter 2 needs assessment analysis, the participating teachers reported they were aware of the variety of strategies available to use with gifted learners. However, the teachers stated they did not have the time to implement GT curriculum, or they worried that the time and focus on the gifted students would negatively impact their other students.

The researcher employed a mixed-method design of observations with the COS-R (VanTassel-Baska, 2005) to document the types of differentiation used by the participants in their language arts instruction. Based on the observational data, the teachers, along with the gifted educator's support, set goals for their instructional practices with their gifted students. After the intervention, focus group interviews were conducted to provide teacher participants the opportunity to share their thoughts and impressions of their engagement in the intervention. The researcher answered the following questions:

1. What changes, if any, are evident in teacher reported efficacy from the onset of the intervention to the conclusion?
2. In what ways did the district instructional GT resource teacher's feedback change implementation of the GT curriculum?
3. To what extent did teachers of gifted students' instructional practices change as measured by the COS-R?
4. How do teachers describe their experience in the intervention?

## **Chapter 4: Intervention Procedure and Program Evaluation Methodology**

The findings from the literature review and needs assessment showed teachers might have the necessary training to support gifted learners but wanted support to implement best practices with gifted learners (Prast et al., 2018; Reis & Westberg, 1994). When teachers receive PD in differentiation strategies and focus on a goal, they report increased feelings of efficacy and greater student success (Dixon et al., 2014; Prast et al., 2018). Effective professional learning must allow for active participation, be sustained and coherent, focus on specific content, and provide opportunities for collaboration (Desimone & Garet, 2015). In line with the research, the intervention occurred over a 9-week grading period to provide teachers with specific feedback and time for reflection. The interview questions included the following:

1. What changes, if any, are evident in teacher reported efficacy from the onset of the intervention to the conclusion?
2. How does specific feedback on differentiation relate to teacher efficacy in differentiating instruction for gifted learners?
3. In what ways did the district instructional GT resource teacher's feedback change implementation of the GT curriculum?
4. What feedback did the GT resource teacher provide specific feedback regarding the observable teaching behaviors as determined on the COS-R?
5. What was the level of teacher engagement in the planning sessions?
6. To what extent did the teachers implement the curriculum with fidelity?
7. In what ways do teachers differentiate instruction to meet the needs of gifted learners?
8. To what extent did observation feedback change teacher feelings of efficacy in meeting the needs of gifted learners?

9. To what extent did teachers of gifted students' instructional practices change as measured by the COS-R?
  - a. general teaching behaviors
  - b. differentiated teaching behaviors
10. To what extent did the teachers implement the curriculum with fidelity?
11. How do teachers describe their experience in the intervention?

This researcher built on the findings from the needs assessment in Chapter 2. The purpose of the study was supporting teachers' self-reported need to have more support and planning time for GT students. The fourth-grade elementary teachers had previous training in GT language arts, specifically the William and Mary Language Arts Curriculum (WMLAC). The GT students could read at least two grade levels above fourth grade. Student GT identification occurred during their second-grade year through formal nonverbal standardized testing (e.g., Cognitive Abilities Test) and teacher-scored portfolios.

The design included providing teachers' direct planning support and lesson feedback from a gifted and talented (GT) resource teacher provided by the district. The GT resource teacher received formal training in the WMLAC and had experience modeling lessons for teachers and providing planning support. The GT resource teacher met bi-weekly with the participants to plan the WMLAC lessons and support lesson implementation with feedback. The goal of the study included supporting teachers in implementing the WMLAC to increase their perceived efficacy in meeting the needs of GT students.

### **Research Design**

The study design included a multiple case study with a convergent design (see Creswell & Plano Clark, 2018). This design was appropriate due to the small sample size ( $n = 4$ ), the

collection of qualitative and quantitative measures simultaneously, and the goal of collecting both types of data to build an understanding of the perspective of each participant through interviews and survey data. At the conclusion of the intervention, data were combined to describe each case rather than considering the data across cases. This approach allowed data collection to support the research questions regarding teachers' differentiation of instruction and efficacy in meeting the needs of gifted learners.

### **Context**

The context was a large elementary school in a suburban community of northeast Maryland. The 720-student body comprised students in early childhood intervention for preschool children who were deaf or hard of hearing, aged 2.5 through 11 years old. The 720 student body, at the time of the study, consisted of approximately 10% of students receiving free or reduced meals. Student ethnicity was primarily White, with 5% Hispanic, 5% Asian, and 3% Black. Approximately 7% of the student body were identified as gifted, keeping with reported national norms (see Bhatt, 2011), and approximately 6% of the student population received special education services.

The classroom teacher population consisted of 34 classroom teachers, with 33 White females and one male classroom teacher. Five teachers were non-tenured, with fewer than three years of teaching experience. All teachers were considered highly qualified in Maryland if they held a teaching certification in the area they taught, specifically early childhood or elementary education.

### **Process Evaluation**

A researcher uses an evaluation of the project to determine how well the implementation of the project meets the aims of the study (Zhang et al., 2011). The purpose of a project



implementation evaluation is to ensure each phase of the project meets the outline initially described (Zhang et al., 2011). Evaluation methods include collecting and analyzing data to determine if the intervention works, including participant attendance at an initial WMLAC refresher training, bi-weekly observations and feedback to support planning, and using that information to guide next steps for lesson implementation (Stufflebeam, 2003).

Bi-weekly observations included a 30- to 45-minute block of time when teachers engaged in direct instruction with the GT students. Structured feedback during this intervention was new to the teachers as they received informal lesson feedback from unscheduled administrative walkthroughs. Walkthrough visits lasted less than five minutes, and feedback was given in the form of a positive comment left on the teacher's desk. However, with the intervention teachers, received the feedback bi-weekly from the district instructional GT resource teacher. Feedback was provided using the WMLAC COS-R (see Appendix E; VanTassel-Baska et al., 2005). If the teacher and resource teacher could not meet regarding the feedback or if the observation feedback sheets did not capture the lessons effectively, changes were made to the intervention model.

The student researcher's role included monitoring the process implementation throughout the 9-week intervention. The student researcher attended at least two planning sessions and took notes in a researcher reflection log to record observable interactions that could not be documented through audio recording. The student researcher collected the COS-R throughout the 9-week grading period and documented in the researcher-reflection log what, if any, changes in the differentiation of instructional practice occurred.

If the classroom teacher or district instructional GT resource teacher could not find the time to dedicate to the co-planning sessions, planning alternatives were considered. Alternatives

included using technology in the form of interactive shared documents or asynchronous chats through Google docs. Consideration was given to the scheduled times for the planning sessions, adjusting the scheduled planning times as necessary for both the classroom teacher and the GT resource teacher.

Another component of the process evaluation was to measure participant responsiveness. Further, the participant answers to interview questions showed how they felt about teaching gifted students in language arts (Appendix B). The intent of the focus group interview entailed determining to what extent the structured observations and planning supported teacher efficacy in implementing language arts students for gifted learners.

### **Process Evaluation Indicators**

Indicators included both qualitative and quantitative measures. The intervention plan was based on a multiple case study with a convergent design (see Creswell & Plano Clark, 2018). The qualitative measures included audio recorded co-planning sessions, classroom observations, and a researcher log, as indicated on the logic model (Appendix C). The implementation of the curriculum with fidelity was a significant component of the theory of treatment and involved teachers meeting with the district instructional GT resource teacher bi-weekly to plan lessons.

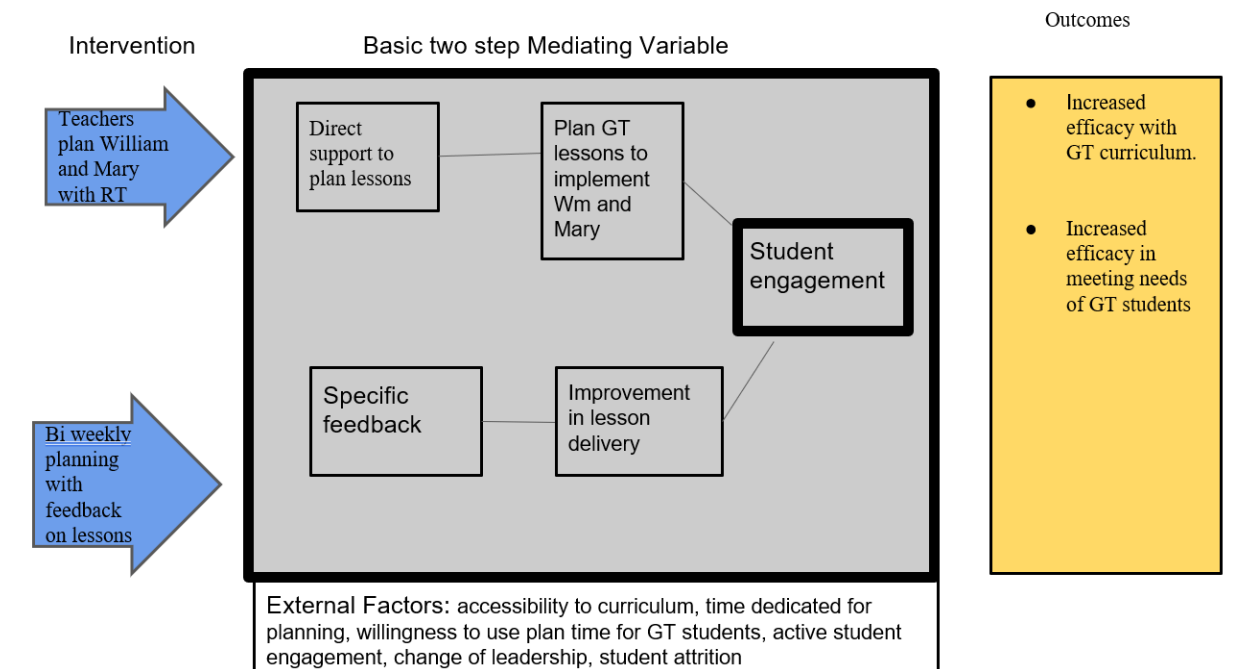


Figure 4. Theory of treatment.

Based on the previous research findings, teachers must meet with a colleague to plan their lessons (Latz, Speirs Neumeister, Adams, & Pierce, 2008; Shidler, 2009). Following co-planning meetings, teachers met with their gifted students in a small group for language arts instruction at least three times a week, according to district curriculum recommendations. The district instructional GT resource teacher observed the lessons once every 7 to 10 days to provide feedback based on what they saw and recorded on the COS-R (Appendix D). The COS-R measure included a focus on observable teaching behaviors supporting differentiation for students. For example, curriculum planning and delivery, accommodations for differences, strategies for critical thinking, creative thinking, and research were defined in the COS-R.

Teachers need time, resources, and knowledge to implement the feedback from the district instructional GT resource teacher with fidelity. The foundation for the study depended on the WMLAC refresher training to provide teachers with the skills and knowledge required to use

the curriculum to differentiate the language arts program for their GT students. Therefore, before the initiation of the intervention, all participating teachers engaged in a 30-minute refresher workshop to review the implementation of the WMLAC. At this time, all teachers ensured they had the required materials, including the teacher's manual, student logs, and reading materials, to support implementation of the curriculum as designed.

A measure of fidelity was a using district instructional GT resource teacher trained in the WMLAC, observing lessons, and documenting evidence of differentiation based on the observable teaching behaviors mentioned earlier. The COS-R measure was used by the district instructional GT resource teacher to collect data during the observations. Evidence of teachers engaging students in advanced thinking, probing with questioning, and implementing differentiation strategies, such as accommodations and instructional delivery, was documented (Appendix E). Narrative feedback notes from the COS-R and transcripts of the co-planning recordings were used to collect qualitative data. As shown in the theory of treatment model, curriculum fidelity fit within the intervention indicators of teacher planning and willingness to use provided feedback.

Teachers' engagement in planning was measured by attendance by both teacher and district instructional GT resource teacher. Planning for instruction with the WMLAC began in early February and continued through the middle of May. The teachers must engage in bi-weekly co-planning using the feedback provided from the observations, as indicated in the theory of treatment model for lesson implementation.

Table 9

*Process Evaluation Matrix*

Process evaluation question	Process evaluation indicator	Data sources	Data collection tool	Frequency
To what extent did the teachers implement the curriculum with fidelity?	Attendance and participation in WMLAC refresher training Quantitative	Attendance roster from refresher training	Attendance sheet	Once
	Use of WMLAC strategies during language arts instruction. Qualitative	Classroom observations Qualitative	Narrative feedback notes from COS-R	Every seven to ten days
		Planning sessions Qualitative		
		COS-R Quantitative	COS-R	Five times, following each observation
What feedback did the GT resource teacher provide specific feedback regarding the observable teaching behaviors as determined on the COS-R?	Specific feedback to support instruction of WMLAC	Co-planning session audio recordings and researcher reflection notes Qualitative	Recordings of co-planning sessions Qualitative	Every ten days
	Qualitative	COS-R Qualitative	Narrative feedback notes from COS-R Qualitative	
What was the level of teacher engagement in the planning sessions?	Documentation of planning sessions. Qualitative	Researcher reflection notes Qualitative	Researcher reflection notes Qualitative	Every ten days
		Audio recordings of planning sessions. Qualitative	Transcribed co-planning session Qualitative	

**Outcome Evaluation**

After determining the intervention was implemented with fidelity, researchers could connect outcomes to the intervention activities (see Baranowski & Stables, 2000). The outcome evaluation showed evidence of teachers demonstrating changes in epistemological beliefs. In

addition, changes in instructional practices were noted from COS-R data and focus group responses.

Further, based on observation data, evidence indicated the frequency that teachers utilized the observable teaching behaviors that aligned with the WMLAC (Appendix B). A focus group interview at the conclusion of the 9-week period was conducted so that teachers could share their opinions on the intervention. The focus group interview allowed the teacher participants to voice their experiences within the intervention and share if those experiences affected their efficacy in meeting the needs of gifted students in language arts. Table 10 shows outcome evaluation questions and methods for data collection.

Table 10

*Outcome Evaluation Matrix*

Outcome evaluation question	Construct	Data source	Data collection tool	Data analysis
How does specific feedback on differentiation relate to teacher efficacy in differentiating instruction for gifted learners?	Efficacy	Classroom observations (COS-R; VanTassel-Baska et al., 2005).	COS-R (across five data points)	Quantitative descriptive analysis of COS-R scores across observations  Qualitative thematic analysis of Narrative feedback data from the COS-R
In what ways do teachers differentiate instruction to meet the needs of gifted learners?	Planning	Co-planning meeting notes and recordings, COS-R (VanTassel-Baska et al., 2005)	Co-planning meeting transcriptions COS-R (VanTassel-Baska et al., 2005)	Thematic analysis of co-planning session transcripts.  Descriptive statistics to monitor differentiation through the intervention.
To what extent did observation feedback change teacher feelings of efficacy in meeting the needs of gifted learners?	Self-efficacy	Focus group interview	Focus group	Descriptive statistics. The sample is too small for other statistical analysis.  Transcription of data

## Method

**Participants.** The teacher participants included four fourth-grade teachers at one suburban elementary school in a community in northeast Maryland (Table 11). Three of the teacher participants had previous experience teaching the WMLAC. Two teacher participants taught longer than 10 years, while the other two taught for fewer than five years. Three teacher participants were female, and one was male.

Table 11

### *Participant Demographics*

Participant	Years Experience	Years and grade level experience with WMLAC	Training
Charlie	3	2 years, 4 <sup>th</sup> grade	One district level workshop
Pat	4	3 years, 2 <sup>nd</sup> and 4 <sup>th</sup> grades	Three district level workshops
Quinn	18	18 years, 3 <sup>rd</sup> , 4 <sup>th</sup> , and 5 <sup>th</sup> grades	12 district level workshops, member of district cohort of WMLAC teachers

Participant recruitment occurred during one of the fourth-grade collaborative team meetings scheduled planning sessions. The goal of the study was introduced by the student researcher using a recruitment script (Appendix F). The student researcher was the assistant principal at the school. After introducing the study, the student researcher left the meeting after providing the written informed consent form to avoid possible conflicts or perceptions of coercion. The student researcher requested that if teachers agreed to participate, they should return the consent in the attached envelope to the student researcher's school mailbox. By leaving before teachers decided to participate, the researcher assumed the teachers would not feel inclined to agree based on the relationship between the student researcher and teachers.

**Measures.** Quantitative measures include the instructional practices questionnaire (IPQ; Hong, Greene, & Higgins, 2006) and the COS-R (VanTassel-Baska et al., 2005). The qualitative measures included narrative feedback notes from the COS-R, transcriptions of co-planning sessions, and the focus group interview. The IPQ (Hong et al., 2006) included 30 items designed to measure teachers' epistemological beliefs in student cognitive engagement, as well as intrapersonal and interpersonal measures. The teachers rated themselves on a scale of 1 (*rarely*) and 4 (*almost always*). The measures of internal consistency reported by Hung et al. (2006) indicated high construct validity across all three subscales, ranging from .77 to .90.

The COS-R included 25 observable teacher behaviors within two categories of general teaching behaviors and differentiated teaching behaviors. Rubric scoring included 3 (*effective*), 2 (*somewhat effective*), 1 (*ineffective*), and no score (*not observed*). The district instructional GT resource teacher used the COS-R during each of the five scheduled observations. The teacher received a copy, and the feedback was used to guide the co-planning sessions. Content validity for the COS-R was measured using a 3-point scale across two dimensions, including the importance of each teaching behavior described ( $r = 0.86$ ) and the preciseness of the description of the observable behavior ( $r = 0.99$ ). The entire scale construct validity measured 0.99 (Farah & Chandler, 2018; VanTassel-Baska et al., 2005). Interrater reliability across two studies was 0.87 for the first study and 0.89 for the second study (VanTassel-Baska et al., 2005). The measures of construct validity showed the COS-R was a valid tool to measure observable teaching behaviors.



Table 12

*COS-R Categories and Subscales*

Category	Observable teaching behavior
General Teaching Behaviors	Curriculum Planning and Delivery
Differentiated Teaching Behaviors	Accommodations for Individual differences
	Problem-solving
	Critical thinking strategies
	Creative thinking strategies
	Research strategies

*Note.* Adapted from *Classroom Observation Scale—Revised* (p. 20), by J. VanTassel-Baska, L. Avery, J. Struck, A. Feng, B. Bracken, D. Drummond, . . . C. Quek, 2005, Williamsburg, VA: College of William and Mary. Copyright 2005 by College of William and Mary. Adapted with permission.

The COS-R provided space for narrative feedback. During the classroom observations, the district instructional GT resource teacher used the COS-R checklist and provided written feedback to each teacher following the observation. The narrative feedback was used to guide the planning session, in addition to the checklist’s quantitative feedback.

The teacher participants met bi-weekly with a district instructional GT resource teacher to co-plan lessons using the COS-R feedback and the WMLAC. Audio recordings were transcribed from the co-planning sessions and analyzed to evaluate conversations about any changes in observable teaching practices or teacher perceptions of efficacy in teaching the WMLAC.

The narrative feedback notes from the COS-R showed the thoughts from the district instructional GT resource teacher during the observations, including notes on the observed teachers’ professional goal. The narrative feedback notes were analyzed for evidence to show what extent the feedback changed the implementation of instructional practices.

After the final observations, the teachers participates in one focus group not to exceed 30 minutes (Appendix B). The semi-structured interview format provided the teacher participants the opportunity to reflect on their participation. The interview was audiotaped and transcribed to analyze for teachers’ level of perceived efficacy in teaching the WMLAC.

The researcher collected anecdotal notes during planning sessions and throughout the intervention. The log provided support for a priori codes and themes. The log supported data collection absent from the COS-R, planning audio recordings, and interview recordings.

## **Procedure**

This section describes the intervention and procedures for data collection and analysis.

**Intervention.** After securing IRB approval from the district and Johns Hopkins University, the student researcher introduced the study goal at a fourth-grade collaborative team meeting. Using the recruitment script (Appendix B), the student researcher explained the goal of the study and requirements for teacher participants.

Immediately following the receipt of informed consent, teacher participants received a link to a Google form to complete the IPQ (Hong et al., 2006). The personal data only included the teacher's name for the purpose of the case study analysis. The survey completion should take no longer than 10 minutes. The same week after surveys were complete, teacher participants received a 30-minute WMLAC refresher training provided by a retired district instructional GT resource teacher. The GT resource teacher had over 35 years of experience working as a teacher of gifted children in grades kindergarten through eighth grade. Prior to retirement, the GT resource teacher worked with the district's Advanced Learners Programs (ALPS) office as a resource teacher planning with general education teachers. The GT resource teacher had experience using the COS-R measure from previous years in the current district when the model included GT resource teachers observing teachers and providing feedback. The district does not currently use this model.

After the professional learning opportunity, the district instructional GT resource teacher established a schedule with the teachers for observations and planning. The observations

conducted by the district instructional GT resource teacher occurred at least five times for no longer than 30 minutes each during the 9-week intervention. Observation data were recorded for each teacher on the COS-R (Appendix B). Teacher participants received a copy immediately following the observation. Co-planning occurred at least five times, following each observation. The co-planning involved using the data from the COS-R completed during observations. Each co-planning session was audio recorded. Audio recordings were transcribed for qualitative data analysis.

At the conclusion of the 9-week intervention, the teachers received a Google form link to complete the IPQ again (Hong et al., 2006). The personal data included the teacher's name for the purpose of the case study analysis. The results were compared to the first administration of the TSES-short form to determine what, if any, changes occurred in teacher reported feelings of efficacy.

Following the completion of the IPQ (Hong et al., 2006), the teacher participants were invited to participate in a focus group interview. The interview allowed the teacher participants to share their opinions on participation in the intervention. The interview responses were designed to provide evidence to answer the following research question: How do teachers report, during a focus group interview, their level of competency in teaching gifted students in language arts instruction?

**Data collection timeline.** Table 13 shows the timeline for the intervention and implementation dates.

Table 13

*Timeline for Intervention and Implementation*

Date	Intervention action	Plan for implementation	Length of time
February, 2020	Participant recruitment and informed consent	Face to face during a fourth-grade collaborative planning meeting.	30 minutes, one time.
February 2020	Teacher participants engage in WMLAC refresher training	Face to face during a fourth-grade planning meeting.	30 minutes, one time.
February and May 2020	Teacher participants complete the IPQ	Online	20 minutes
February 2020	Teacher participants meet with GT resource teacher and begin co-planning WMLAC	Face to face meetings	30 minutes
February 2020-May 2020	Teachers implement WMLAC	Three times a week	45 minutes
February 2020-May 2020	Engage in co-planning sessions using COS-R	Bi-weekly	30 minutes

**Data collection.** This section outlines a plan for data collection throughout the intervention. Both qualitative and quantitative measures were collected. The plan included procedures for securing the data and a schedule for how data were collected.

The IPQ (Hong et al., 2006) were administered in March and again in May. The IPQ provided evidence for any changes in teacher efficacy because of participation in the intervention. Teacher participants received a link to a Google form, which they used to complete the survey. Survey completion took no more than 15 minutes for the 30-item Likert scale measure.

The COS-R (VanTassel-Baska et al., 2005) was completed during five data points for each classroom observation by the district instructional GT resource teacher. The teachers received a copy, and the student researcher retained a copy. Data from the COS-R provided

evidence for the proximal outcomes, including teachers implementing the WMLAC and student progress.

Each 30-minute, bi-weekly, co-planning session was audio recorded. Planning sessions included discussions regarding the data from the COS-R measure and narrative feedback, comments on student progress, and plans for upcoming lessons. The transcriptions of these sessions were used to provide evidence for how each teacher responded to the COS-R feedback and implementation of the WMLAC. The planning sessions recordings provided evidence for the proximal outcome of teachers establishing a relationship with the district instructional GT resource teacher.

After the completion of the 9-week WMLAC unit, teacher participants were invited to engage in a 30-minute focus group interview (Appendix B) designed to allow teacher participants to reflect on their experiences in the intervention and share if participation in the intervention changed their feelings of efficacy for teaching gifted students in their classrooms. The focus group interview questions were aligned with COS-R (VanTassel-Baska et al., 2005) to elicit more explanation and address the research questions regarding teachers' self-reported levels of competency in teaching gifted student's language arts. The interview responses showed evidence for the proximal outcomes of the WMLAC implementation and relationship with the district instructional GT resource teacher.

The student researcher maintained a log throughout the intervention to document conversations with the district instructional GT resource teacher and other observations. The qualitative data gathered included (a) teacher participants' thoughts of self-efficacy, (b) evidence that co-planning sessions and observations occurred with fidelity, (c) student researcher perceptions from observations of the co-planning sessions, (d) informal conversations with

district instructional GT resource teacher, and (e) student researcher thoughts regarding COS-R data.

**Data analysis.** Data analysis for this multiple case study with a convergent design included analyzing the qualitative and quantitative data collected from the participant and district instructional GT resource teacher. The data collection showed evidence to address the four research questions. RQ1 was the following: What changes, if any, are evident in teacher reported epistemological beliefs from the onset of the intervention to the conclusion? The analysis included descriptive statistics across the three subscales for each participant. Due to the small sample size, no other statistical analysis was proposed.

RQ2 was the following: To what extent did the GT resource teacher feedback change implementation of instructional practices as measured by planning session audio recordings and the Classroom Observation Scale – Revised (COS-R)? RQ3 was the following: To what extent did teachers of gifted students’ instructional practices change as measured by the COS-R? Teachers answered if they taught (a) general teaching behaviors or (b) differentiated teaching behaviors. The classroom behavior checklists from the COS-R were analyzed using descriptive statistics due to the small sample size. Narrative data were transcribed, put into Nvivo, analyzed using a priori codes based on the research, and compared with co-planning session transcriptions.

RQ4 was the following: How do teachers report, during a focus group interview, their level of competency in teaching gifted students in language arts instruction? The focus group transcript and researcher log were used to triangulate the data (Baxter & Jack, 2008). Each case was analyzed individually to determine the effect of the intervention across the participating teachers (see Baxter & Jack, 2008).

## Summary Matrix

Table 14 shows the summary matrix. The matrix shows the research questions, measures, and data collection used. The matrix also shows the data analysis used.

Table 14

### *Summary Matrix of Research Questions, Measures, and Data Collection*

Research question	Constructs	Measures and instrumentation	Data collection	Data analysis
RQ 1. What changes, if any, are evident in teacher reported epistemological beliefs from the onset of the intervention to the conclusion?	Efficacy	IPQ (Hong et al., 2006)	Onset and conclusion of the intervention	Descriptive Statistics
RQ 2. In what ways did the GT resource teacher feedback change implementation of instructional practices as measured by planning session audio recordings?	Instructional practices	Co-planning meeting recordings	Bi-weekly	Qualitative thematic coding
	Pedagogical content knowledge	COS-R (VanTassel-Baska et al., 2005)	Bi-Weekly	Quantitative analysis of COS-R (VanTassel-Baska et al., 2005)
		Focus Group Interview Researcher reflective log	Interview Transcript	Qualitative thematic Coding
RQ 3. To what extent did teachers of gifted students' instructional practices change as measured by the COS-R? (a) general teaching behaviors (b) differentiated teaching behaviors	Instructional Practices	COS-R (VanTassel-Baska et al., 2005)	COS-R (VanTassel-Baska et al., 2005) bi-weekly	Descriptive statistics
		Planning meeting recordings		Qualitative thematic coding
		Researcher reflective log	Bi-weekly field notes	Qualitative thematic coding
RQ 4: How do teachers report their level of competency in teaching gifted students in language arts instruction?	Efficacy	Focus group interview	Conclusion of intervention	Qualitative thematic coding
	Content Knowledge	Recording		
	Instructional practices	Researcher reflective log		

## **Conclusion**

Informed by the literature and needs assessment, the intervention was designed to support elementary teachers' efficacy in differentiating language arts instruction for gifted learners. The multiple case study with a convergent design provided both qualitative and quantitative data. The research questions supported the identification of measurable constructs and the type of data collected and analyzed.

For this treatment, a concern of contamination included teacher conversations regarding the intervention (see Baranowski & Stables, 2000). If the teachers discussed their planning feedback or lesson observations, they could have contaminated how other teachers participating in the intervention taught the lesson in their classrooms. By sharing feedback, the teachers could help each other, therefore making it difficult to determine the effect of the district instructional GT resource teacher's feedback and recommendations. The inclusion of collegial conversations in the intervention could call into question the internal validity of the study (see Baranowski & Stables, 2000).

The researcher used this multiple case study with a convergent design to gain more information on how teachers taught language arts to GT students. The information gathered should inform the next steps to support teachers at the researcher's school. The researcher planned to share this information with district leaders as well. Chapter 5 includes the key findings from the data analysis.



## **Chapter 5: Findings and Discussion**

The purpose of this study was how direct support and feedback in planning and lesson delivery could change a teacher's perceived self-efficacy in teaching language arts to gifted elementary students. In Chapter 4, the researcher presented the study design as a mixed-method multiple case study to answer the research questions. This chapter presents findings for the following research questions:

1. What changes, if any, are evident in teacher-reported epistemological beliefs from the onset of the intervention to the conclusion?
2. To what extent did the GT resource teacher's feedback change implementation of instructional practices as measured by the planning session audio recordings and the Classroom Observation Scale-Revised (COS-R)?
3. To what extent did teachers of gifted students' instructional practices change as measured by the COS-R?
4. How do teachers describe their experience in the intervention?

### **Process of Implementation**

Three fourth grade teachers participated. As outlined in the dissertation proposal, the researcher met with the fourth-grade teachers during a scheduled planning session. The researcher described the goals of the study and the responsibilities of the participant. The researcher left copies of the informed consents with the teachers and notified them that if they wanted to participate, they could sign the informed consent document and return it to an envelope in the researcher's school mailbox. Three of the four teachers agreed to participate; the fourth declined for personal reasons.

The researcher proposed to the district to extend recruitment to third-grade teachers, but the request was denied. Therefore, the study included three teacher participants. All three participants had GT students in their language arts classes. A trained retired GT resource teacher met with the teacher participants to plan the WMLAC lessons and observed each participant teaching five lessons over 12 weeks. One week before the onset of planning sessions and observations, the teacher participants completed the IPQ (Hong et al., 2006) using Google Forms to obtain a baseline of their beliefs on teaching gifted learners. The following subsections show the implementation of the intervention.

**Introductory session.** The GT resource teacher met with the researcher to understand the goals of the study and clarify the role of the GT resource teacher. Following the meeting, the GT resource teacher emailed the researcher a proposed William and Mary Planning Guide 2020 (see Table 14). The researcher agreed to the planning guide and established a time for the GT resource teacher to meet and introduce herself to participants one morning during duty hours before the instructional day.

Table 15

*Proposed William and Mary Planning Guide 2020*

Week	Day and time	Activity
February 18th	Thursday, February 18 <sup>th</sup> , 11:00	Change Model
February 24th	TBD	Observe Teachers
March 2nd	Tuesday, March 2nd, 8:05 a.m.	Literature Web
March 9th	TBD	Observe
March 16th	Tuesday, March 17th, 8:05 a.m.	Vocabulary Web/Hamburger Model
March 23rd	TBD	Observe
March 30th	Tuesday, March 31st, 8:05 a.m.	Hamburger/Reasoning
April 13th	TBD	Observe
April 20th	Tuesday, April 21st, 8:05 a.m.	Reasoning/Persuasive writing
April 27th	TBD	Observe

The GT resource teacher requested a meeting with the teacher participants to introduce the rationale behind the WMLAC and establish norms with the participants. The initial meeting

lasted approximately 30 minutes. The resource teacher prepared a PowerPoint presentation to review the goals of the WMLAC. She engaged the teacher participants by asking questions and encouraging them to share their questions or concerns about the curriculum. At that time, they were introduced to the COS-R (VanTassel-Baska et al., 2005) measure and learned how it would measure observable teaching behaviors during the five lessons. The teachers were introduced to the COS-R subscales of differentiation, creative thinking, critical thinking, problem-solving, and research. The GT resource teacher shared her expectations to earn a score of 3 (*effective*), 2 (*somewhat effective*), 1 (*ineffective*), or nothing (*not observed*). The category of not observed did not have a numerical identifier. Based on the initial meeting notes, the teachers actively engaged and participated by responding to and asking questions. Following the meeting, the teacher participants reflected on the meeting. They commented that the GT resource teacher was prepared and that they were excited about the WMLAC feedback.

After the meeting, the GT teacher identified the date for the first planning meeting one week later. The participants were asked to ensure they had materials for teaching the curriculum. The GT resource teacher offered to order additional materials when teachers reported there was only one teacher manual for all three to share.

**Planning Session 1.** The teachers were prepared, and the ordered manuals arrived before the first planning session. The teachers worked in pairs to discuss the theme of change. Two teachers partnered together, and one worked with the GT resource teacher. They actively engaged in the activity and contributed to the discussion. Each teacher created a list of things that changed, and then they sorted the lists into categories. Next, they engaged in a discussion about the things that did not change. One participant reported enjoying thinking in divergent ways, and another wondered how the children would perform on the activity. The first lesson included

opportunities for students to brainstorm ideas, identify multiple interpretations of events, and discover ideas with questioning. These observable behaviors align with the differentiated teaching behaviors of the COS-R. In addition, during the planning session, the participants established expectations for student performance and planned for opportunities for students to express thoughts aligning with curriculum planning and delivery.

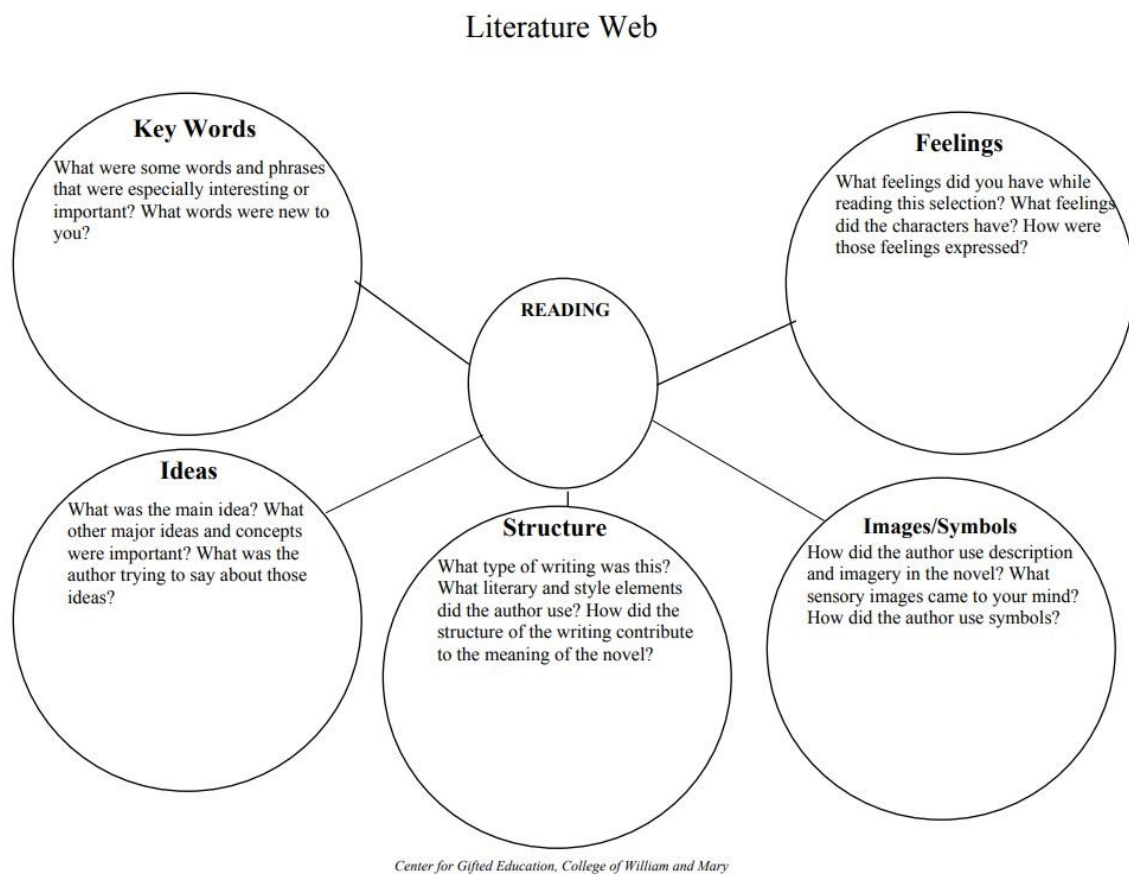
The resource teacher explained how to use the manual and the important components in the manual. For example, the lesson overview, target for the lesson, and appendices that offered writing topic suggestions were discussed. The teachers chose dates for their first observations where they would teach the change lessons that they practiced during the session. They expressed concerns about the lessons' timing because they would need to instruct their reading groups out of the normal order. The GT resource teacher offered to come on different dates to allow minimal disruptions to their schedules, and all participants opted to change their schedules. The researcher observed the planning session and audio recorded it to add to the qualitative data collected.

**Observation 1.** All three teachers were observed on the same day with staggered times, allowing the GT resource teacher to observe each lesson. Each small group lesson lasted approximately 30 minutes, creating a concern for the teacher participants. They had one hour for guided reading each day, and reading groups typically lasted no longer than 15 minutes.

The teachers' behaviors were measured using the COS-R. Following the observations, the teachers received a copy of the COS-R observation within two days and before the next planning time with written feedback from the resource teacher. The examples of anecdotal notes from the first observation included questioning to promote deeper thinking and greater understanding as evident throughout the lesson; student energy and enthusiasm levels were high

during the lesson, indicating how much the kids enjoyed the lesson; and the teacher facilitated well.

**Planning Session 2.** At the start of the second planning session, the GT resource teacher provided oral feedback to the participants, complimenting each participant on executing the lesson. Following the feedback, the participants engaged in partner work, with two working together and one working with the GT resource teacher to learn how to use the WMLAC literature web effectively (see Figure 5).



*Figure 5.* The WMLAC literature web. Used with permission.

The participants used the literature web, described by the GT resource teacher, as a vehicle for literary analysis. The participants learned about the literature web and how to use it to

analyze a portion of the novel, *Crispin* (Avi, 2002). The participants received guidance, completed a sample literature web, and asked clarifying questions about its use. The Literature Web lesson aligns with observable teaching behaviors under the curriculum planning and delivery and accommodations for individual differences on the COS-R, especially planning opportunities for student participation and opportunities for students to apply new knowledge, choose what part of the web to complete, engage in structured activities to discover key ideas, and work independently. This is the second lesson in the WMLAC sequence, so limited to no opportunities for creative or critical thinking were expected by the GT resource teacher. The teachers selected dates the following week for the second observation. After scheduling the observation, one participant, Quinn (pseudonym), expressed self-doubt about the upcoming lesson observation. Yet, the same teacher created individual binders for the students participating in the WMLAC. According to Quinn, the binders could help the students organize the vocabulary web and additional materials as they worked through the lessons.

As per the session's recording and noted in the researcher's log, the teachers voiced concerns about the pacing of the planning sessions. Due to school assemblies and conference days, the participants believed they struggled with the momentum. All participants agreed finding dedicated planning time for WMLAC was hard. Pat (pseudonym) stated the observation schedule influenced the pace of the lessons. Pat also expressed self-doubt and shared feeling overwhelmed with planning and lesson implementation. Due to time running out in the planning session when students entered the building, the participants and the GT resource teacher agreed to get through the next observation cycle and then revisit the plan to find one that would be better aligned with their needs.

Following the planning session, the GT resource teacher met with the researcher and requested the teachers observed each other. She had observed that all the teachers did the lesson in their own way, and they all did well. She believed that they could learn better from each other. This meeting occurred on February 27th. The researcher suggested proposing the idea to the teacher participants at the third planning session.

**Observation 2.** The observations occurred as scheduled from the second planning session. The lessons lasted 30 to 45 minutes. The teacher participants introduced the literature web to the students. The teachers guided their small group through completing components of the web by exploring each portion of the literature web as modeled and practiced in the planning session. According to the GT resource teacher's notes on the COS-R, students worked in pairs and brainstormed ideas. The participants received COS-R data from the GT resource teacher two days later, following the observation.

**Planning Session 3.** When designing the intervention, part of the treatment theory included considering outside factors, such as participant responsiveness, scheduling of observations and meetings, and curriculum implementation. The planning and observation cycles were scheduled for every five to 10 days. However, an interruption to the cycles occurred when schools were mandated to shut down due to the COVID-19 global pandemic. The participants were observed and received the COS-R feedback the week of March 9th, but due to closed schools and a necessary IRB modification, they did not meet again for planning and feedback until March 26th. During this time, the participants could not teach any WMLAC lessons with their gifted learners.

Before Planning Session 3, several decisions and actions occurred. First, the state public schools were mandated to be closed for two weeks. The researcher conferred with JHU advisers,

and it was decided to wait until schools re-opened to resume the study. On March 25th, the state superintendent of schools extended the school closure for a month. With district permission, an IRB amendment was filed to adapt the study to continue in a virtual online format. The planning sessions and observations of the lessons with the GT resource teacher using the COS-R continued online.

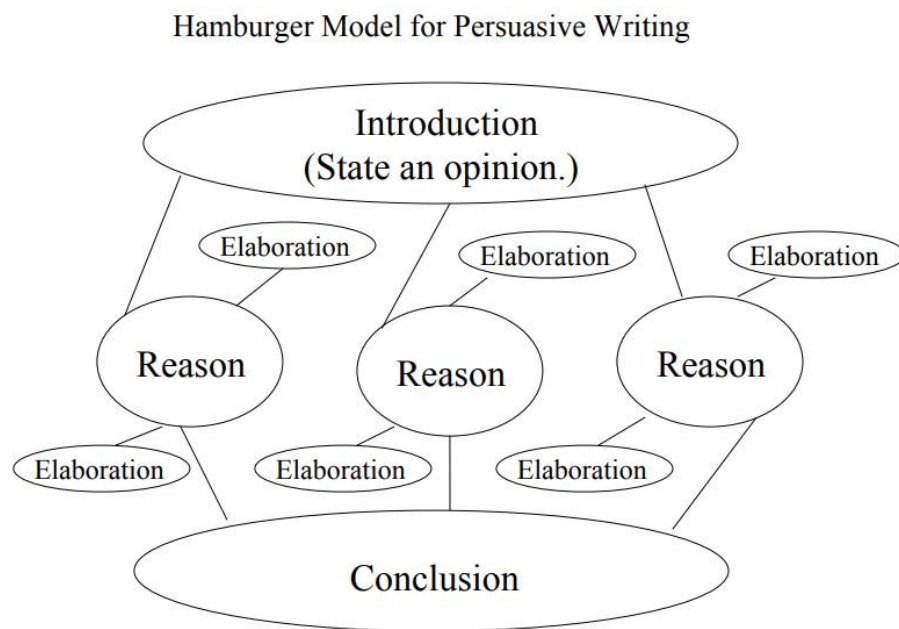
Following IRB approval from the district and JHU, the third planning session was scheduled and held on March 26th. The district leader made an exemption only to allow the teachers and students in the study school access to the GT curriculum. On the final day of face-to-face instruction, the three participating teachers stated that they wanted to continue the study because they enjoyed working with the children. They found teaching and using the WMLAC fun.

The participants used the beginning of the third planning session to discuss what materials they had at home and the best ways to implement WMLAC in an online learning environment. The participants admitted they had not sent all the students home with *Crispin* (Avi, 2002). The teachers believed that they would only be out for two weeks and wanted to resume in the same place with the novel when they returned to school. Moving forward, they decided to have students choose one of the advanced novels: *Touch Blue* (Lord, 2012), *Fever* (Anderson, 2000), and *A Crooked Kind of Perfect* (Urban, 2007).

The GT resource teacher introduced the next lesson, the hamburger model (see Figure 6). She recommended the participants should have the students use the model to deconstruct a paragraph. The GT resource teacher explained how the hamburger model could be a valuable organizer for students as they worked through the elements of a reasoning lesson. She suggested using it as a scaffold to organize a persuasive argument for what to do if gifted \$25.00. The



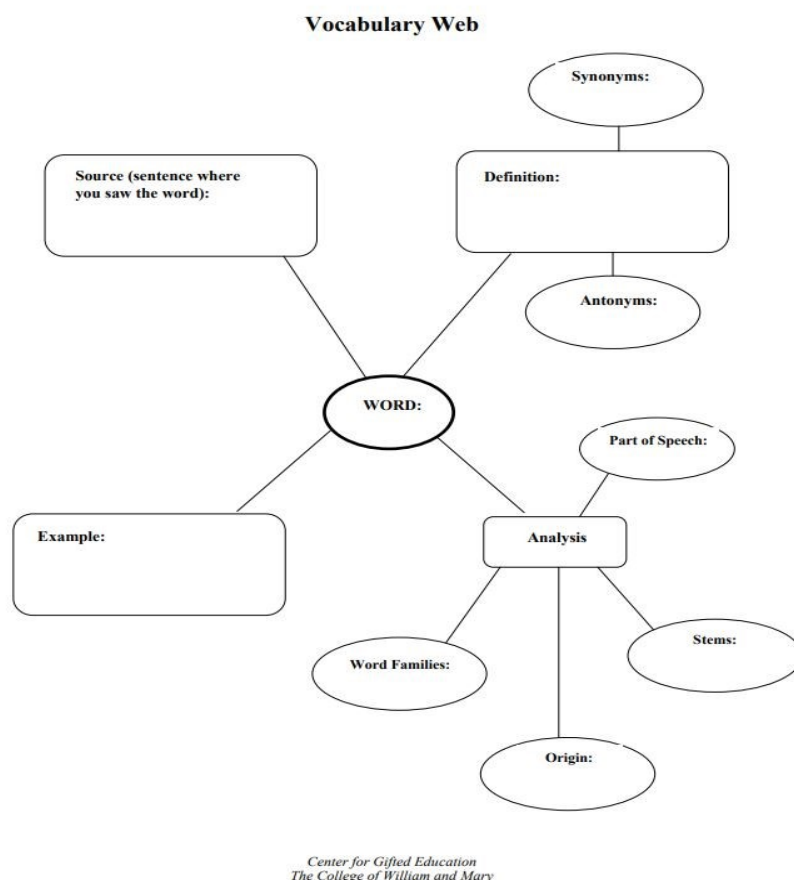
teachers could use the elements of reasoning (see Figure 6) to ask the students to consider different perspectives and assumptions as they formulated an argument, aligning with critical and creative thinking behaviors on the COS-R.



*Figure 6.* William and Mary hamburger model for persuasive writing. Used with permission.

In addition to the hamburger model for persuasive writing, the GT resource teacher provided instructions on another component of WMLAC: the vocabulary web (see Figure 7). The vocabulary web comprised a key component of the WMLAC; however, similar to the first two lessons, the vocabulary web instruction was straightforward. The students may choose which sections to complete, but the lesson does not offer many observable opportunities for problem solving or for critical or creative thinking. The GT resource teacher gave background information about the importance of learning Greek and Latin roots, part of the analysis section of the vocabulary web.

The participants decided to create Google slides for the vocabulary web to allow students to complete the web collaboratively. Typically, in the classroom, the teachers would provide paper copies for pairs of students to complete the work together. The teachers decided each student would get a slide to complete, and then the student would share it with the teacher and the group. The GT resource teacher praised the idea. Quinn expressed discomfort with technology, and Charlie (pseudonym) and Pat provided reassurance and offered to share slides to aid Quinn in adapting to online instruction.



*Figure 7.* Vocabulary web. Used with permission.

**Observation 3.** The teachers presented the lesson content using Google slides. The GT resource teacher viewed one of the lessons live. The other teachers emailed the recordings of

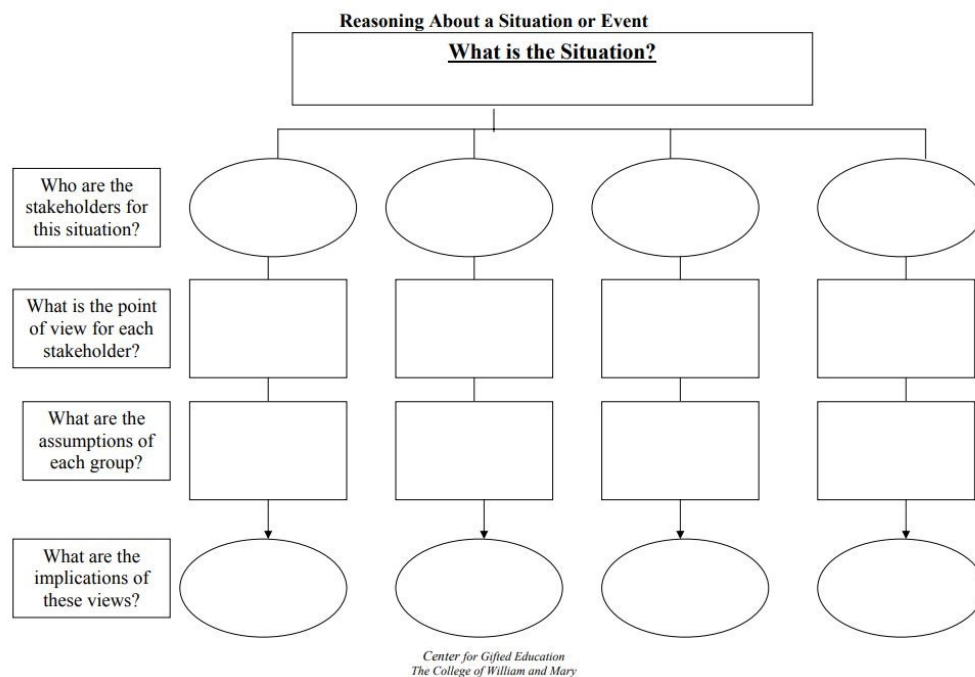
their Google Meet lessons to the GT resource teacher. All teachers received the COS-R feedback by email within one day of the observations.

The teachers adapted the lesson for online access by providing hyperlinks to Dictionary.com and Thesaurus.com for students to access and complete the vocabulary web. The teachers presented the content, and then they allowed students time to work independently on the vocabulary web. The teachers offered students the chance to work on the web independently or stay on Google Meet, and students chose to work through the web while on Google Meet.

**Planning Session 4.** The GT resource teacher began the fourth planning session by providing feedback to the teacher participants. The GT resource teacher expressed awe at how the participants adapted lessons and demonstrated differentiation in an online format. The GT resource teacher noted a challenge of the online instruction involved in how to include partner work. The participants discussed engaging students using Google Meet, the only district approved video chat platform. Pat commented that it would be possible to share documents with the students to use the comment feature to collaborate. The GT resource teacher reminded the teacher participants of the goal of the WMLAC, specifically encouraging students to interact with each other to build an understanding of literature. With this prompt, the participants then determined it would be wiser to use a Google Doc and a synchronous session for students to collaborate with one another.

Finally, the participants reviewed the components for the next observation. The students used the elements of the reasoning model (see Figure 8) to evaluate a situation. The GT resource teacher modeled the lesson with the premise of a student receiving \$25.00 as a birthday gift and deciding how to spend the money.

After the modeling, the participants decided to change the focus of the lesson to align with current events. The participants agreed to use the model to have students determine and evaluate if schools should re-open on May 18th or remain closed for the rest of the year, potentially providing opportunities for critical thinking as well as accommodations for differences on the COS-R. The GT resource teacher agreed this method would be an effective way to have students use the reasoning model, and the participants did not need to use the prompt suggested in the WMLAC. The GT resource teacher commented to the researcher that providing the participants with choice helped lessons become less robotic and more authentic. Once the GT resource teacher agreed for the participants to change the focus of the lesson. The participants began to share thoughts on how to encourage student dialogue and ways to express open-mindedness and to consider multiple perspectives, again aligning with critical and creative thinking on the COS-R.



*Figure 8.* William and Mary reasoning model. Used with permission.

**Observation 4.** The participants shared Google Slides and asked the students to work online together to add their thoughts to the slides. The focus of the reasoning lesson was to argue whether the state should open schools back up on May 18th or wait until the end of the school year. Students worked in partner groups to respond using the slides to identify the stakeholders, their points of view, their assumptions, and the implications of the views. The resource teacher observed one live class, and the remaining were viewed using recordings. The teachers received the COS-R feedback through email within a day after the lesson observation.

**Planning Session 5.** The GT resource teacher shared feedback from the lessons to begin the session. The participants shared successes and tips for teaching online. They talked about the challenges of using Google Meet. When teachers presented the slides, they could not see any of the students to determine if engagement with the lesson activity had occurred. Also, they could not see the comments in the chat box while in presentation mode. All three participants said they struggled to know if they were successfully engaging students.

The GT resource teacher presented the next lesson and guided the participants through the components of the lesson. For this lesson, students had to use the hamburger model (Figure 6) and the elements of the reasoning model (Figure 8) to write a persuasive paragraph that could be used with any novel. The teachers shared how to adapt the content for online engagement. Ideas included color-coding the slides so that groups knew which slides to work on to write their paragraphs, assigning slides, and allowing students to present their paragraphs to receive peer feedback. The GT resource teacher offered an article about wearing masks in public. In addition, the GT resource teacher offered suggestions to extend the persuasive paragraph into a possible research project and/or debate to help engage students in opportunities for problem solving and for critical and creative thinking. The participants agreed a debate would be an engaging activity

for the students in a face-to-face classroom environment. Due to district limitations for work outside of the allocated time for WMLAC, the participants decided not to begin a research project or introduce a debate. They stated they would prefer to use the class time to complete the WMLAC lessons as written.

**Observation 5.** The participants used the work from the previous lesson about school closure to guide students to write persuasive paragraphs about school closures. The participants implemented ideas shared in planning, including color-coding and assigning student pairs slides for their work. The teachers implemented lessons learned from their online experiences, including not sharing their screens and letting the students guide discussions, providing observable opportunities for creative thinking on the COS-R. The resource teacher observed one live class, and the remaining were viewed using recordings. The teachers received COS-R feedback by email within a day of the lesson observation.

**Post-assessment.** The participants were emailed a link for the IPQ the day after receiving their final feedback from the observation. All three participants completed the survey within one day and returned it to the researcher. The researcher then scheduled a time to meet with the participants for the final interview.

**Focus group interview.** After completing the IPQ, the participants and researcher coordinated a mutually agreeable time for the final focus group interview. The interview lasted approximately 45 minutes, using the proposed questions (see Table 16), with additional clarifying follow-up questions. Information from the focus group interview showed how the participants reflected on their experiences in the intervention to identify any changes in their instruction and or beliefs and attitudes that might have occurred through the intervention.

Table 16

*Focus Group Interview Questions and Follow-Up Questions*

Proposed interview question	Follow-up question
To what extent do you believe you can differentiate lessons to meet the academic needs of your students?	How do you see yourself in the future being able to differentiate your lessons for your advanced kids knowing what you know now?
What changes to your instructional practices, if any, have occurred as a result of your participation?	How did it feel with letting kids have more freedom and stepping back from the discussion part?
What part of the intervention was the most beneficial for you professionally: the feedback or the planning sessions?	Can you elaborate? It was a really good experience because of what you saw in your kids, or changes for you professionally?
As a result of your participation, what changes, if any, did you see in your students?	Do you think you would have seen the same actions from the students if we had been in the building for the entire experience?
How did you use the feedback from the resource teacher?	You felt like you used the feedback to focus on the positive parts of your teaching and not just thinking critically about your teaching?
	Did you appreciate her letting you break from the rigidity of the manual?
Is there anything else you think I should know?	

**Results and Findings**

According to Guskey's (2002) model for teacher change, as teachers see changes in student achievement, teachers may shift attitudes and beliefs about pedagogical strategies. The GT resource teacher could use the intervention to support language arts teachers to change their feelings of efficacy when teaching gifted students. This section presents the results of the mixed-method case study organized by the research question. The participants' names were changed to pseudonyms to protect their identities.

The quantitative data analysis included descriptive statistics. The qualitative data analysis involved a priori codes based on the literature and emergent codes from the second cycle of coding (see Table 16). Through pattern coding, the themes emerged from the qualitative data to explain the quantitative data and add a richer picture of the experience for each participant (Miles et al., 2014). The initial coding process began by creating a codebook (Appendix XX)

with the established a priori codes, as grounded in research and discussed in Chapter 4. These codes encompassed beliefs, attitudes, efficacy, instructional practices, and pedagogical knowledge (McCoach & Siegle, 2007; Szymanski et al., 2018).

The researcher used strategies outlined by Miles et al. (2014) during the second and third cycle coding to chunk the data together within the codebook to identify the themes. By grouping the codes within the codebook using data reduction and data display (Onwuegbuzie & Leech, 2006), the initial a priori codes evolved into the themes. The themes aligned with the research included efficacy and instructional practices (Bégin & Gagné, 1994a; Gibson & Dembo, 1984; Tschannen-Moran & Hoy, 2001). The themes of time, relationships, and technology emerged during the third cycle of coding by grouping data together within the codebook.

At the time of the proposal, it was unclear how the relationships between the participants and the GT resource teacher would emerge. In addition, it was not evident how the participants' relationships with each other would support their instruction and implementation of the WMLAC. The three participants maintained a collegial relationship prior to the intervention: They shared materials and held weekly meetings to discuss student concerns or plan their calendars to make sure they were teaching lessons at the same time. However, more supportive behaviors emerged through the intervention. As mentioned, the GT resource teacher commented that the connection between the participants was one of the “greatest features” of the intervention. Initially, Charlie and Pat relied on Quinn for guidance due to Quinn's experience and comfort with WMLAC. During the planning sessions, once online, a new dynamic evolved. Quinn relied on Charlie's tech expertise and Pat's eagerness to try anything. Charlie emerged as a leader online, sharing the content slides with the other two participants and generating ideas on how to teach the lessons in an online platform. Pat became the cheerleader for Quinn, providing



encouragement and support. Without the move to online learning, these relationships may not have **emerged**. It is likely the participants would have maintained their earlier roles of Quinn as the expert, Pat as the enthusiastic participant, and Charlie as the quiet listener.

The theme of time emerged as the participants focused on making time for both face-to-face and online planning and lesson delivery (Dixon et al., 2014; González & Skultety, 2018; Prast et al., 2018). During the focus group interview, Quinn commented on never having the time before to focus on planning and instruction for gifted students. Pat and Charlie agreed, saying focusing on gifted learners and using the WMLAC allowed them to see the GT students in a more positive light. Students initially described as class clowns or off-task students by the participants became identified as leaders and out-of-the-box thinkers by the end of the intervention.

Finally, due to global pandemic school closures, the use of technology became an important theme in the final lessons of the intervention. The following subsection presents the findings organized by the research question (see Table 17).

Table 17

*Sample of Codes and Themes From Qualitative Data*

Codes	Example	Theme
Doubt	"I was trying to balance it. I don't think I did it right all the time, but I did ok."	Efficacy
Correct	"As a teacher you wonder 'am I doing this right?'"	
Student	"There was a hesitancy before, but now I'm like, I can do it!"	
behaviors	"Seeing what these kids are capable of. That's amazing!"	
Teacher		
perceptions		Instructional practices and Pedagogical Knowledge
Reflection		
Feedback	"I was able to step back and let them do the work rather than me."	
Materials	"We can add in this gradual release of responsibility to support them."	
Student	"I started switching back and forth between Google slides and grid view so I could have conversations."	
Team		Time
GTRT		
Help		
Planning	"I just don't think I will have time to teach this."	
Lessons	"We never have time to work together for our GT kids like this"	
Instruction	"This is taking more time than I ever thought"	Relationships and Support
Reflection		
GTRT	"If we can make the slides and share with you, you'll be able to teach the lesson"	
Team		
Student	"You all did a masterful job of presenting the lesson." "I watched the recording and that helped me. Like I was on the right track."	
Coronavirus	"I have no idea what I'm doing"	Technology
Confidence	"How do we get them to participate online?"	

**To what extent did teachers of gifted students' instructional practices change as measured by the COS-R?** The COS-R (VanTassel-Baska et al., 2005) included a rubric scoring system of behaviors that teachers of gifted students might exhibit in the classroom. The COS-R was non-evaluative to highlight the practices that the teachers implemented and identify items for improvement. During the first planning session, the district GT resource teacher defined a goal of the COS-R as providing feedback and guiding the focus for planning. The following subsection shows the participant data from the COS-R across the five observations.

***General teaching behaviors: Curriculum planning and delivery.*** The subscale of general teaching behaviors included curriculum planning and delivery. The curriculum planning and delivery subscale consisted of five items: (a) setting high expectations for student performance, (b) incorporating activities for students to apply new knowledge, (c) engaging

students in planning, monitoring or assessing learning, (d) encouraging students to express thoughts, and (e) having students reflect on what they learned. Item scoring included 3 (*effective*), 2 (*somewhat effective*), 1 (*ineffective*), and no score (*not observed*). The participants could score up to 15 points on the curriculum planning and delivery (see Figure 9).

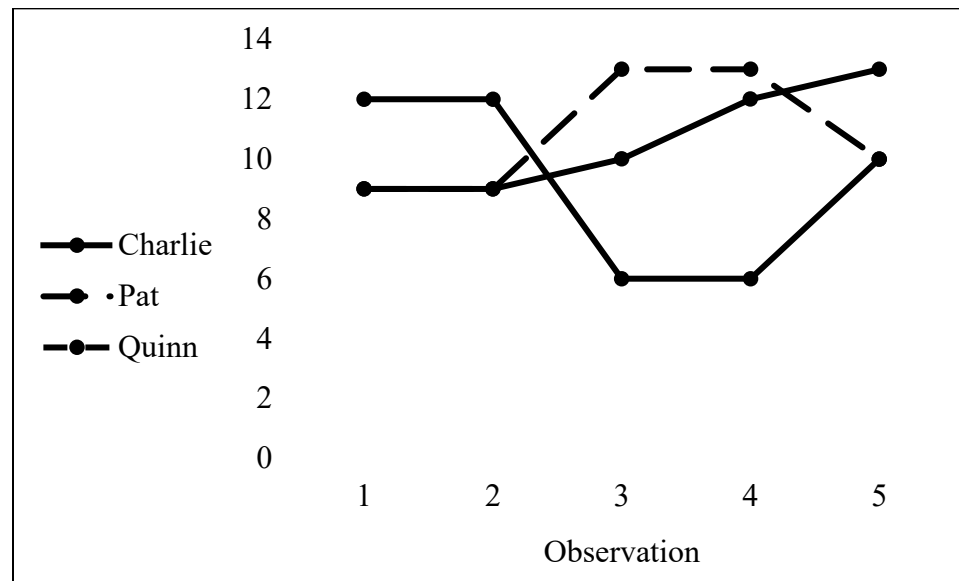


Figure 9. Curriculum planning and delivery: Rubric scores for the curriculum planning and delivery subscale of the COS-R.

During the first two observations, all three participants received effective ratings in setting high expectations for students' performances by incorporating activities for students to apply new knowledge and encouraging students to express thoughts. No scores were given for the following items: engaging students in planning, monitoring, or assessing their learning and providing opportunities for reflection. During the planning sessions, the participants received praise for how well they supported individual differences and facilitated discussions. The GT resource teacher remarked how well each teacher instructed the students in unique ways. The comments from the GT resource teacher resulted in a theme of support.

Charlie's scores dropped between Lesson 2 and the first and second online lessons. The areas scored as less effective included setting high expectations and incorporating activities for

students to apply new knowledge. By the fifth and final observation, Charlie demonstrated more effective general teaching behaviors in all five domains of the online format. Throughout Planning Sessions 3 and 4, Charlie shared concerns about engaging students online and adapting lessons to the online format. During Planning Session 4, Charlie stated, “I guess I just need to figure out a better way to encourage everyone to participate.” Following this statement, the other two participants began sharing ideas for student engagement. In Observation 5, Charlie increased the observed differentiated teaching behaviors.

Pat was observed demonstrating all five items of the curriculum planning and delivery, even when instruction went to an online format in Lesson 3. Pat scored somewhat effective in the items of incorporating activities for students to apply new knowledge and engaging students in planning, monitoring, and assessing learning. Pat received effective scores on encouraging students to express thoughts and reflect on what they learned. According to the planning session recordings and notes from the researcher’s log, Pat quickly shifted instruction to online learning, accounting for the steady increase in differentiated teaching behaviors. According to the focus group interview, Pat felt overwhelmed by the final lesson, explaining the overall score drops.

Quinn made consistent progress in the curriculum and planning throughout the five lesson observations. Two areas that changed included incorporating opportunities for students to apply new knowledge and encouraging students to express their thoughts. Student reflection was observed in the first online lesson. Quinn scored effective on all five items for this subscale by Lesson 5. As mentioned previously, **the first two observations** provided many opportunities for evidence of curriculum planning and delivery. Following the second lesson, the GT resource teacher complimented the participants saying they were experts.

The qualitative theme of instructional practices connected to the IPQ domain of curriculum and planning. During the first online lesson, Pat received written feedback on the COS-R for providing students with opportunities to express thoughts. During the fourth planning session, Pat and Quinn discussed how to encourage students to express ideas online. Pat commented, “I found myself switching back and forth between Google slides and grid view so I could have conversations.” The GT resource teacher praised Charlie for how smoothly transitions between tabs occurred during the first online lesson. Throughout Planning Sessions 3 through 5, the participants discussed ways to shift the WMLAC lessons to allow student interaction in an online format, showing evidence for the increased COS-R scores across the five observations.

The theme of efficacy was also evident. In the planning sessions, Quinn frequently expressed self-doubt with self-deprecating comments, such as “[In] the next lesson, I will crash and burn,” or “I definitely need help; I have no clue how to do this.” According to the notes in the researcher’s log following Lesson 1, Quinn stated, “I’ve got nowhere to go but up.” The GT resource teacher reminded Quinn after each negative comment, “That’s why we’re here, to learn together.”

Pat also remarked feeling “hesitant” to begin the intervention during Planning Session 1. Yet, during the focus group interview, Pat reflected and commented, “There are parts of this you can use for everything. I’m definitely doing this again next year.” Similarly, during the focus group interview, Charlie stated, “I too was hesitant, knowing it would be good for my students, but not knowing that I necessarily knew the right way to implement.” However, after receiving positive feedback from the GT resource teacher, Charlie reported, “Definitely made me more comfortable.”

Relationship and support were an ongoing theme. During the first online planning session, Quinn expressed anxiety about teaching online, claiming not feeling confident using online tools to teach the WMLAC. Pat commented, “If you can find your way to this online planning session, you can teach online too. We will help you.” During the focus group interview, Quinn acknowledged the support from the team and stated, “I never would have tried any of this without the help from you guys.”

***Accommodations for individual differences.*** The Accommodations for Individual Differences subscale included four items. Observable teacher behaviors included (a) providing students opportunities for individual or group work, (b) accommodating differences, (c) encouraging multiple interpretations of events, and (d) allowing students to discover key ideas through questioning. Item scoring included 3 (*effective*), 2 (*somewhat effective*), 1 (*ineffective*), and no score (*not observed*). The participants could score up to 15 points on the rubric scale to accommodate individual differences (see Figure 10).

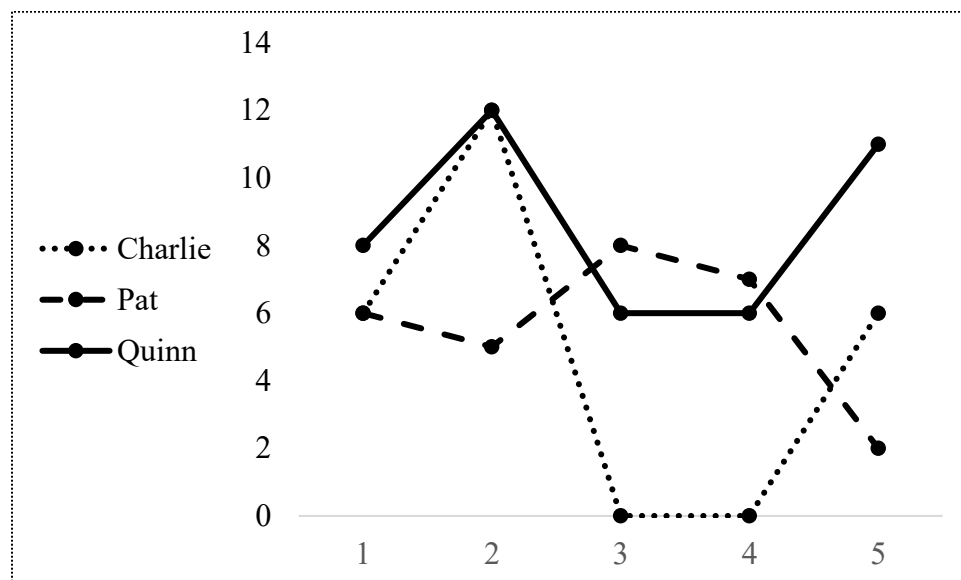


Figure 10. Rubric scores for the accommodations for student differences subscale of the COS-R.

Charlie was highly effective in providing accommodations for individual differences in Observation 1. Charlie demonstrated no accommodations during the first two online lessons. According to the planning session recordings and notes in the researcher's log, Charlie expressed difficulty navigating the online platform. Charlie presented the lessons but struggled to provide opportunities for students to contribute to discussions. By Lesson 5, Charlie somewhat effectively provided opportunities for independent learning, encouraged multiple interpretations of events, and allowed students to discover key ideas, indicating an increase in observable accommodations for individual differences from Lessons 1 to 5.

Pat effectively provided opportunities for independent or group learning during each observation. During Lesson 3, the first online lesson, Pat continued to demonstrate accommodations effectively for the differences in all items, except for using individual conferencing. During Lesson 3, the first online observation, Pat served as the school eCoach, helping staff and the greater school community adapt to online learning. As online learning continued, Pat's responsibilities as eCoach increased. During the fourth planning session, Pat expressed concern about finding the time to plan and execute lessons while aiding parents and school staff with technology concerns. According to the notes in the researcher's log and focus group, Pat expressed worry about fitting in the WMLAC lessons.

During Lesson 3, the first online lesson, Quinn was less effective in providing opportunities for independent or group learning and encouraging multiple interpretations of events and situations. However, by the final online lesson observation, the scores showed more effective opportunities for independent or group learning, multiple interpretations of events, and allowed students to discover key ideas individually. The changes from Lesson 1 to 5 showed an increase in the variety of ways that Quinn accommodated for individual differences. According

to the notes in the researcher's log, focus group comments, the support in planning from the other participants, and by watching others' lessons, Quinn gained pedagogical knowledge and adapted strategies to learning.

One of the themes from the qualitative data that aligned with the domain of accommodation was efficacy. At the onset of online learning, Charlie felt unclear about how to accommodate differences. Charlie implemented the lessons with more teacher directed learning, which limited student interaction. The GT resource teacher asked the participants to consider ways to encourage student interaction. After brainstorming with the group, Charlie watched Pat's recorded lesson and employed some of the same techniques, as evident in the Lesson 5 observation score. Quinn struggled to feel confident with teaching the WMLAC, and going to online learning might account for the lower scores. The GT resource teacher commented that Quinn's expertise with WMLAC was an asset to the team. Once lessons moved online, Quinn was no longer an expert because of Quinn's inexperience with technology. However, Charlie began to emerge as a leader in adapting lessons to an online platform, and Pat became the cheerleader supporting Quinn. By the fifth lesson, Quinn's scores increased, showing an understanding of the existing WMLAC knowledge and new knowledge in using technology.

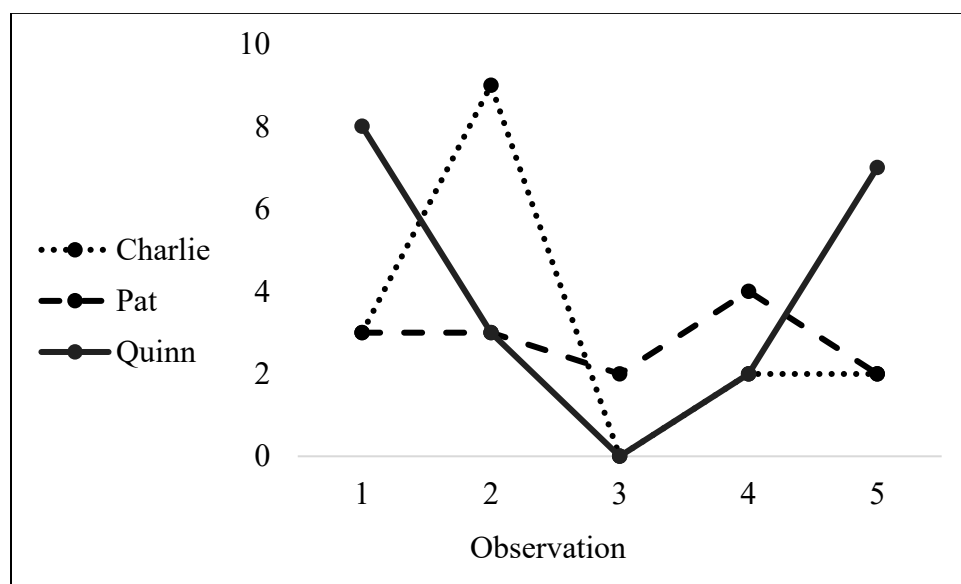
Pat voiced the theme of instructional practices during the focus group interview. Moving online forced critical thinking about lesson implementation, Pat asked, "How was I going to attempt to do group work and prepare for instruction?" Additionally, Pat noted that participating in the intervention helped with the instruction by making changes to recognize the individual strengths and needs of each student.

The theme of technology emerged in the accommodation domain. The participants shared ideas in the third planning session on how to encourage student participation. Pat suggested



using different Google slides and having each student type ideas on the slide to support individual differences. Charlie asserted that, by coloring coding the slides, students could work collaboratively and share ideas, demonstrating Charlie's adeptness with utilizing available technology to encourage student participation online. In addition, Charlie commented that as students shared ideas, the rest of the group would go back and edit ideas to support or disagree with ideas shared. According to the planning session recordings and researcher's log notes, Quinn did not share ideas for student engagement during these planning sessions, supporting the finding that Quinn felt uncomfortable with technology. However, during the focus group interview, Quinn commented that hearing the other participants' ideas allowed Quinn to modify instruction to accommodate student differences, supporting higher ratings on the COS-R for Quinn by Lesson 5.

***Problem-solving.*** The subscale of problem-solving included three observable teaching behavioral items. The observable teaching behavioral items included (a) employing brainstorming, (b) engaging students in problem-solving identification and definition, and (c) engaging students in solution finding activities.



*Figure 11.* Rubric scores for the problem-solving subscale of the COS-R.

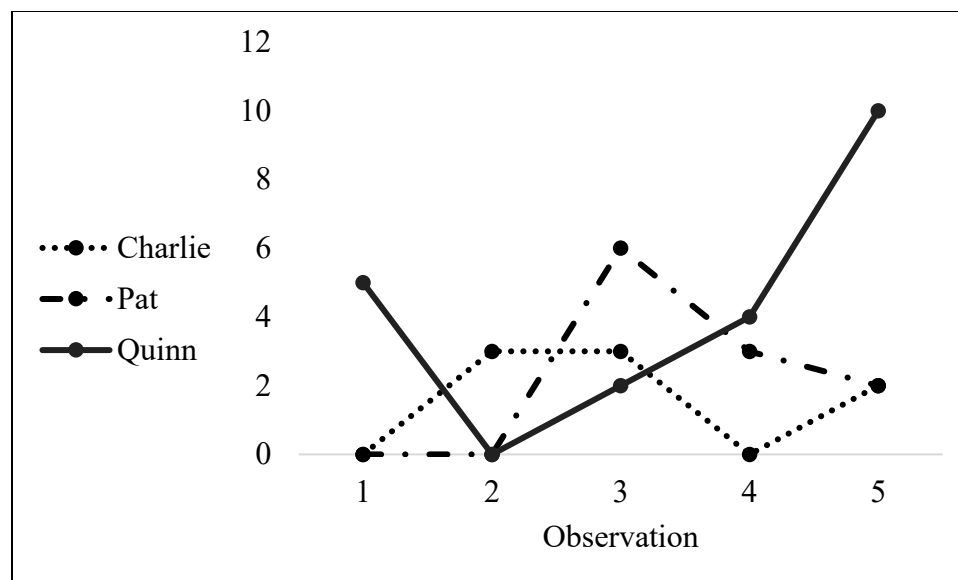
Charlie somewhat effectively employed brainstorming techniques in the first lesson. There was evidence of increased observable problem-solving behaviors in the second lesson, which effectively supported problem-solving in all three domains. During Lesson 3, the first online lesson, Charlie did not provide any opportunities for problem-solving. Notes from the researcher's log indicated Charlie presented the lesson to the students but kept the lesson teacher-driven instead of allowing student discussion. By Lessons 4 and 5, however, Charlie somewhat effectively engaged students in solution finding activities. According to the researcher's log and planning session recordings, Charlie and Pat discussed how to encourage more student engagement. This discussion, along with prompts from the GT resource teacher, might have provided Charlie with ideas needed to encourage student participation.

During Lesson 1, Quinn effectively provided problem-solving opportunities in brainstorming and problem identification. Quinn somewhat effectively engaged students in brainstorming activities. In Lesson 2, Quinn only provided opportunities for brainstorming. No observable opportunities for problem-solving occurred in the first online lesson, Lesson 3, focusing on vocabulary. Quinn claimed not liking the vocabulary lesson during the focus group and often skipped over teaching the lesson entirely. By Lesson 5, Quinn somewhat effectively provided opportunities for brainstorming and effectively provided opportunities for problem identification and problem-solving. At this time, Quinn used feedback from the team and the GT resource teacher to modify instruction to an online format based on the planning session recordings and notes from the researcher's log. Initially, the GT resource teacher commented that problem solving should be hands-on. However, the GT resource teacher broadened the definition of problem solving, to include subtle ways students approached the WMLAC lessons. The GT

resource teacher's expanded definition of problem solving may provide support for how ratings in the problem solving domain changed across the lessons.

The qualitative theme of technology was apparent as the participants adapted lessons for online learning. According to COS-R data, limited opportunities existed in online learning for problem-solving. The most frequent problem-solving behavior included brainstorming. The notes in the researcher's log and planning session recordings showed that the participants struggled to find ways to encourage student-to-student dialogue, including opportunities for problem-solving. The participants worked together to encourage students to identify problems and solutions but could not find a consistent way to use technology to support problem-solving behaviors. During the focus group interview, Quinn stated that most problem-solving opportunities occurred during student research and independent work. These opportunities did not exist once online instruction began.

***Critical thinking.*** The subscale of critical thinking within the differentiated teaching behaviors scale included four items. The observable critical thinking strategies included (a) encouraging students to judge or evaluate situations, problems, or issues; (b) engaging students in comparing and contrasting ideas; (c) providing opportunities for students to generalize from concrete data or information to the abstract; and (d) encouraging student synthesis or summary of the information within or across disciplines.



*Figure 12.* Rubric scores for the critical thinking subscale of the COS-R.

Charlie was observed effectively providing opportunities for students to judge or evaluate situations, problems, and issues in Lessons 2, 3, and 5. No other observations of problem-solving occurred during Charlie's lessons. According to notes from the researcher's log, Charlie's first lesson was teacher-directed, with limited time for students to compare ideas or make judgments about situations in Lesson 1. During the second planning session, the GT resource teacher told participants they could use the WMLAC as a guide, but they had permission to differentiate lessons to match their unique styles. In response to this suggestion, in Lessons 2 and 3, Charlie demonstrated evidence of critical thinking. During the focus group interview, Charlie mentioned that permission from the GT resource teacher helped allow Charlie to modify the lessons to allow students to take ownership of learning.

By Lesson 3, the first online lesson, Pat somewhat effectively provided critical thinking opportunities by encouraging students to judge or evaluate situations, generalize from concrete to abstract, and synthesize information across disciplines. According to the notes in the researcher's log, Pat expressed excitement for online learning. During the planning sessions, Pat led the

discussions on how to adapt the WMLAC to online learning. During Lessons 4 and 5, Pat continued to somewhat effectively demonstrate encouraging students to judge or evaluate situations, an increase from the first two lessons.

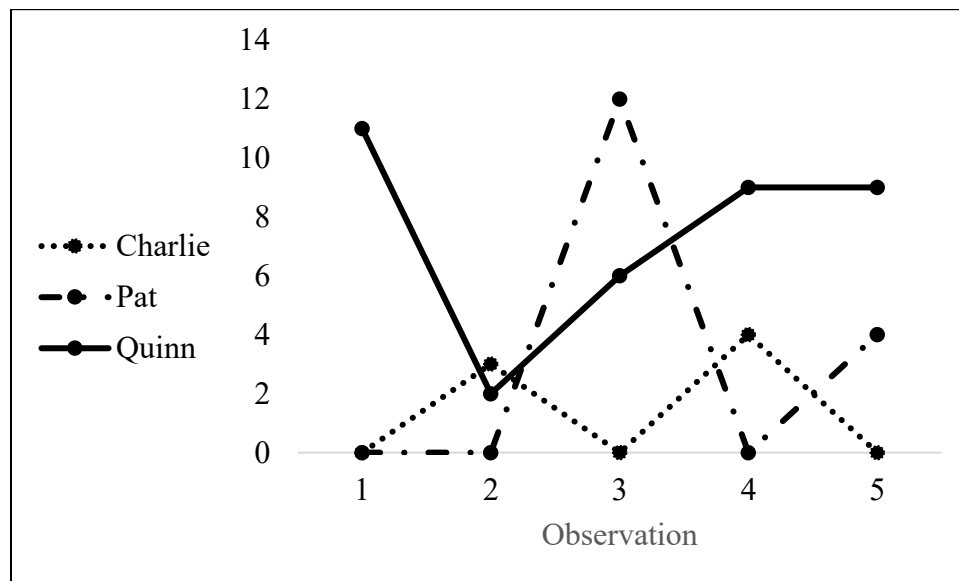
Quinn was the only one observed providing opportunities for critical thinking in Lesson 1 by encouraging students to judge or evaluate problems and providing opportunities for students to generalize from concrete to abstract thoughts. Quinn did not provide any observable opportunities for problem-solving in Lesson 2. In Lesson 3, the first online lesson, Quinn encouraged students to evaluate situations somewhat effectively. During the final planning, Quinn shared thoughts to focus the lesson on the current school closing situation. By shifting the lesson's focus, Quinn provided critical thinking opportunities effectively and somewhat effectively in all areas.

The qualitative theme of instructional practices was noted in the researcher's log, and Pat struggled with time management after moving to online instruction. Pat would become immersed in discussions with students and not complete all components of the lessons. The GT resource teacher encouraged Pat, saying the lessons were engaging and relevant for students.

During Planning Session 4, Quinn asked, "How can we get students to engage more online? They just sit there and do not talk." This question led the participants and GT resource teacher to discuss how to encourage participation by creating shared slides for cooperative work and randomly calling students to participate. By Lesson 5, Quinn effectively and somewhat effectively provided opportunities for all four critical thinking behaviors, accounting for the increase from Lessons 4 to 5 and indicating a shift in instructional practices.

***Creative thinking.*** The subscale of creative thinking included four items (see Figure 13). The observable creative thinking behaviors included (a) soliciting diverse thoughts or ideas, (b)

engaging students in an exploration of diverse points of view, (c) encouraging open-mindedness, and (d) providing opportunities for students to develop and elaborate on ideas.



*Figure 13.* Rubric scores for the creative thinking subscale of the COS-R.

Charlie inconsistently provided opportunities for creative thinking across the five lessons. In Lesson 2, Charlie effectively engaged students in exploring diverse viewpoints. In Lesson 3, Charlie presented the lesson but did not provide opportunities for student discourse or interactions. However, after the fourth planning session, where the participants and GT resource teacher shared ideas for online learning, Charlie somewhat effectively solicited many diverse ideas and provided opportunities for students to elaborate on ideas in Lesson 4. The GT resource teacher commented that Charlie was masterful at questioning and management, especially with manipulating technology. However, Charlie struggled to let the students be more independent, which may provide evidence for the changing ratings in the domain of critical thinking.

Pat effectively provided opportunities for creative thinking in all four domains in Lesson 4. In Lesson 5, Pat somewhat effectively provided opportunities for soliciting diverse ideas and opportunities for students to elaborate on ideas. In Lesson 3, the first online lesson, Pat provided

opportunities for creative thinking. According to the notes in the researcher's log and planning session recordings, Pat received praise from the GT resource teacher for being authentic in the lesson and supporting students' abilities to explore vocabulary. Yet, according to the notes in the researcher's log from Lesson 4, Pat felt overwhelmed and questioned if continuing with the intervention could occur with the conditions of online learning. Pat's expressions of concern led the team to discuss how to continue the intervention by modifying the observation cycles and moving each up to once a week instead of every 10 days. By Lesson 5, Pat again found opportunities for creative thinking.

The qualitative theme of instructional practices related to how Quinn solicited diverse thoughts from students in each lesson. Quinn often skipped the vocabulary lesson and was unfamiliar with how to teach the lesson. During Lesson 2, according to the notes on the COS-R, Quinn asked students to find big ideas and complete the literature web on a chapter of their choice. The instructional decision did not allow students to explore diverse viewpoints, demonstrate open-mindedness, or elaborate on ideas. Yet, Quinn somewhat effectively solicited ideas, encouraged students to demonstrate open-mindedness, and provided opportunities to develop and elaborate on ideas in Lesson 3. By Lesson 5, Quinn demonstrated these behaviors effectively.

During the focus group interview, all three participants reflected on how changes in instructional practices allowed them to see how students faced academic challenges, including opportunities for creative thinking. Quinn observed that some students who did not participate in face-to-face instructions contributed to online discussions. During the second planning session, Quinn referred to this student as a "disaster," yet Quinn's perspective shifted once working with the student online. Data from the planning session recordings and the researcher's log showed

that as Quinn provided opportunities for the child to show academic success, the student became more of a leader and respected by peers. As the participants provided more opportunities for students to take responsibility, the teachers observed positive changes in students' academic success (see Guskey, 2002). Evidence from the planning sessions and focus group showed that as the teachers saw students thriving, the teachers' professional efficacy and beliefs in their abilities to teach GT students changed (see Guskey, 2002; Szymanski et al., 2018).

Time was an emerging theme in the qualitative data. According to the notes on Pat's second lesson, the GT resource teacher did not have time to observe opportunities for creative thinking because she scheduled a need to observe another lesson as Pat's lesson ran long. In addition, before Lesson 3, Pat's commitment to families and teachers needing support for online instruction played a role in preparing the lesson. Pat admitted to having less time to prepare lessons due to other responsibilities from school closure.

***Research strategies.*** The subscale of research strategies included five observable items. The research strategies' observable teaching behaviors included (a) requiring students to gather evidence from multiple sources through research-based techniques; (b) providing opportunities for students to analyze data and represent those data in appropriate charts, graphs, or tables; (c) asking questions to assist students in making inferences from data and drawing conclusions; (d) encouraging students to determine implications and consequences of findings; and (e) providing time for students to communicate research findings to relevant audiences in a formal report.

Observing all five research behaviors in every lesson would be "atypical," according to the following annotation on the COS-R: "It is atypical for these to be observed in one session. Some teachers, however, may use Items 21 to 25 within a single period to illustrate the full research process to students" (Van-Tassel-Baska, 2003, p. 5). During the intervention, no



participants demonstrated observable behaviors in the subscale of research strategies in any of the five observed lessons.

**Summary of COS-R findings.** The COS-R data showed evidence to answer the research question about how the teachers of gifted students' instructional practices changed. The COS-R scale measured general teaching behaviors and differentiated teaching behaviors. Based on the observational data, all the participants had an increase in general teaching behaviors. The participants increased the variety of general teaching behaviors and how effectively the behaviors were implemented from Lessons 1 to 5. Similarly, the participants increased the ways they accommodated student differences from Lessons 1 to 2. In Lesson 3, the first online lesson, all three participants had a dip in the number and efficacy of observable accommodations for individual differences. This could be in part because of how the GT resource teacher defined behaviors and struggled to identify problem solving, critical and creative thinking when participant lessons transitioned to online. The researcher viewed the online lessons and noted opportunities for creative thinking during lesson three from each participant based on language from the COS-R. This observation does not align with the observations of the GT resource teacher providing evidence the COS-R is a subjective measure. The participants discussed how to implement the WMLAC in an online format during Planning Session 4, and evidence indicated that the score increased to accommodate student differences in Lessons 4 and 5.

All three participants struggled to demonstrate observable opportunities for problem solving consistently. This could be, in part, because the GT resource teacher defined problem solving as something hands-on. All participants received comments about their use of brainstorming on the COS-R from the GT resource teacher. Like the results for differentiation, as the participants planned for online learning, observable opportunities for problem solving

increased from Lesson 3 through the end of the intervention. During the second planning session, the GT resource teacher began to encourage participants to seek ways to nurture more complex behaviors, including problem solving, critical and creative thinking. As the participants moved through the series of lessons, more opportunities for student engagement emerged. The GT resource teacher commented not expecting to see behaviors across all domains in all lessons.

**What changes, if any, are evident in teacher reported epistemological beliefs from the onset of the intervention to the conclusion?** The participants completed the IPQ (Hong et al., 2006) at the onset of the study in February and at the conclusion of the study in May. The researcher used descriptive statistics due to the sample size as evidence about teacher-reported epistemological beliefs. The results are presented in mean scores by domain, aligning with previous research (see Table 18; Hong et al., 2006).

Table 18

*Pre-Assessment and Post-Assessment Results of the Instructional Practices Questionnaire*

Category	Charlie		Pat		Quinn	
	M (SD)		M (SD)		M (SD)	
Domain	Pre	Post	Pre	Post	Pre	Post
Cognitive	2.75(.32)	3.54 (.15)	3.58 (.14)	3.83 (.11)	2.75 (.32)	3.25(.17)
Interpersonal	3.27 (.23)	3.54 (.15)	3.45 (.20)	3.7 (.15)	2.60 (.16)	3.3 (.26)
Intrapersonal	3.00 (.43)	3.22 (.27)	2.71 (.35)	3.6 (.18)	2.85 (.45)	3.25 (.25)

The cognitive domain of the IPQ included 12 items designed to measure to what extent teachers' opportunities occurred for critical thinking, problem-solving, brainstorming, and providing learning challenges (see Hong et al., 2006). All three participants reported that the frequency of providing opportunities in the cognitive domain changed from the pretest to the posttest. The reported changes from pre-assessment to post-assessment for cognitive behaviors came from Charlie (0.70), Pat (.25), and Quinn (0.50). Charlie noted that at the beginning of the intervention, students had limited opportunities for independent thinking, and it was almost

always teacher driven. However, Charlie noted that by the end of the intervention, more opportunities existed for students to share their thoughts, “rather than me thinking for them.”

The interpersonal domain included 10 statements measuring opportunities for students to work and problem solve together (see Hong et al., 2006). All participants' scores changed from the pre-assessment to the post-assessment: Quinn (0.70), Pat (0.26), and Charlie (0.27).

The intrapersonal skills domain included eight statements measuring opportunities provided for students to investigate individual interests through research and critical thinking. Again, all three participants' scores changed from pre-assessment to post-assessment: Pat (0.89), Charlie (0.22), and Quinn (0.40). Due to the small sample size, statistical significance can not be determined, based on the collected data. However, each participant's scores changed in a positive direction on the IPQ from the onset of the intervention to the conclusion.

In addition to the IPQ data, the qualitative theme of instructional practices related to the cognitive domain. Throughout the planning sessions and focus group interviews, each participant commented with surprise on how his or her students participated in the WMLAC. Charlie recognized that students needed independent thinking opportunities. By Planning Session 3, Charlie acknowledged that as students worked together in the first two lessons, they became more responsible for their learning. Charlie said, “When I was able to step back and have them take responsibility for learning, they really stepped it up.”

As noted in the researcher's log, Charlie provided challenges for students, especially the boys, who took responsibility for learning and showed initiative. During the focus group interview, Charlie commented that the planning sessions helped shape how to modify the lessons for students' needs. Charlie reflected that when students had more autonomy over learning, they

took more responsibility for learning and seemed more engaged in completing the assigned work.

During the focus group interview, Pat commented that students seemed more engaged and demonstrated more advanced thinking. As a result, Pat continued to offer more opportunities for student-driven lessons, which aligned with the theoretical framework (see Guskey, 2002). According to the Guskey (2002) model, as teachers see changes in student outcomes, teachers are more likely to change their beliefs and attitudes about instructional practices.

Another qualitative theme associated with the cognitive domain was relationships and support. Pat commented during Planning Session 2 that students had more agency over learning and drove their inquiry projects; the students built a classroom community. Students independently researched the Black Plague to understand the historical context for *Crispin* (Avi, 2002). Pat's students then used the class time to present their research to the class. During the focus group interview, Quinn observed that as students worked together more on WMLAC activities, they became more focused on classwork. One student emerged as a leader among peers.

Providing more evidence for relationships, Charlie said getting feedback as a group was helpful and remarked that hearing how Pat and Quinn taught lessons resulted in changes to instructional delivery. Pat reflected that the group feedback raised awareness of what went well in lessons rather than on perceptions of what did not go well. In one specific instance, the GT resource teacher told Pat the lesson was long, but it was authentic and built excitement among students.

Quinn claimed each planning session provided an opportunity to make a goal to focus on improving instructional practices (see Gordon et al., 2007; Hughes et al., 2011). During the first

two lessons, Quinn stated a professional goal included creating opportunities for students to work in pairs. Quinn consistently received high ratings for accommodations for student differences, providing evidence of meeting the goal. The GT resource teacher also acknowledged progress on this goal in written feedback from the observations on the COS-R. During the online lessons, Quinn set professional goals to find ways to provide opportunities for student interactions, and to encourage student dialogue. Evidence can be seen on the COS-R scales of critical and creative thinking. Only during Lesson 2, when Quinn focused on accommodations for difference, did Quinn have a low rating on the COS-R for critical and creative thinking. During the first online planning session, Quinn questioned how to adapt the WMLAC to be interactive in an online class environment. During the focus group interview, Quinn reflected on how the team collaboration supported adapting the WMLAC for online learning, evidenced by Quinn's overall high ratings on the COS-R and Charlie and Pat's ratings improving across the five observations.

All three participants remarked that the planning sessions helped improve lessons. As the intervention continued, the participants actively engaged more in the planning sessions. Based on the transcript recordings from the sessions, the GT resource teacher spoke for more than 90% of the first planning session. The GT resource teacher facilitated the meeting by asking questions to the participants but spoke less than 50% of the time by the final planning session. The participants drove the conversation and shared ideas for online learning, including how to group students and generate more ways to encourage student participation by providing support for each other (Griffith, Ruan, Stepp, & Kimmel, 2014; Kraft & Blazar, 2017; Latz et al., 2008).

***In what ways did the GT resource teacher feedback change implementation of instructional practices as measured by planning session audio recordings?*** The district GT resource teacher provided the participants with verbal feedback during planning sessions and

writing on the COS-R. Both written and oral feedback included consistently positive comments. Also, the GT resource teacher used the planning sessions and feedback to help the three participants evaluate their practices and make instructional shifts.

***Written feedback.*** During the first planning session, the GT resource teacher suggested having students use sticky notes to write down ideas and share thinking to practice brainstorming in the first lesson. During the observation of the first lesson, both Charlie and Quinn demonstrated evidence of employing this technique. Written feedback on the COS-R showed the use of brainstorming by each participant. For example, the use of sticky notes for students to share ideas was scored as effective for all participants in Lessons 1 and 2.

Most of the written feedback showed a narrative of the lesson rather than specific feedback on teaching strategies. Written comments on the COS-R included 71.5% lesson narrative and 28.5% praise to the participant. For example, Quinn used a picture to teach perspective, Pat's students created abstract brainstorming lists, and Charlie included brainstorming in the small group instruction. Praise focused on student behaviors that included excitement from students and active student participation.

The research proposal included an outlined plan for feedback, specifically written feedback on the COS-R. The researcher planned that the participants would receive the feedback on the day they taught the lesson to provide the participants with immediate feedback. The researcher did not anticipate participants receiving feedback together during the planning sessions. According to the notes in the researcher's log and focus group transcripts, all three participants agreed that hearing the feedback for each other aided them in planning and implementing lessons.

***Oral feedback.*** The district GT resource teacher dedicated time in each planning session to provide feedback in verbal praise to the participants, as evident in the transcripts from the planning sessions. Like the written feedback, the verbal feedback included praise and acknowledgment of successful pedagogical practices. When asked, the GT resource teacher claimed to not know if feedback had a direct influence on shifts in instructional practices. The GT resource teacher commented not being able to evaluate if feedback directly changed classroom practices. However, the GT resource teacher noted each of the participants took an active role in planning, and the GT resource teacher saw the teachers implementing strategies modeled from planning sessions in lessons. When the GT resource teacher directly asked participants about changes, the participants would comment on changes in student behavior but were unable to connect those student changes to changes made in instructional practices.

Following the first online lesson, Charlie received praise for how “calm and comfortable the students were taken through the lesson.” Pat was praised for providing opportunities for “real learning” Quinn was told the lesson was “exciting.” The GT resource teacher also praised the participants for recognizing outstanding student responses to the employed instructional practices. For example, following Lesson 1, the students “created a system for identifying feelings. They really did some analysis and higher-level thinking.” Another group “identified aspects of setting and the structure of *Crispin*.” The GT resource teacher then told the participants that “these are great examples of critical thinking.” The participants had to be explicitly told students were using critical thinking because none of the participants could identify examples of how students demonstrated critical thinking. The GT resource teacher commented that using questioning during the planning sessions would support the participants in noticing change in lessons.

The changes in instructional practices were evident from data in the planning and observation sessions. For example, following the first observations, the GT resource teacher stated, “I personally was struck by how much of critical thinking and reasoning skills I saw in your classrooms.” Limited opportunities existed for critical thinking in the first lessons. The GT resource teacher followed this comment by asking, “Did any of you notice anything that would indicate your students are developing critical thinking skills?” Following this feedback and the discussion, both Pat and Quinn increased critical thinking opportunities in Lesson 3. Charlie had been working on helping students learn to work independently online during Lesson 3. Notes from the researcher log show that Charlie was focused on using online tools and following the scripted lesson. Charlie focused on using online tools and following the lesson plan as scripted, according to notes in the researcher log. This may provide evidence for Charlie’s lower rating for critical thinking opportunities in Lesson 3. During the focus group interview Charlie also mentioned moving online afforded opportunities to interact with students as they completed the Hamburger Model, and often Charlie could not monitor work because of obligations to other students.

Based on the focus group transcript, all three participants struggled to respond to how they differentiated, even with GT resource teacher feedback and COS-R data providing support for the theme of instructional practices. Charlie noted the WMLAC provided a gradual release of responsibility as the lessons progressed, where students gained agency over their learning with less teacher guidance. Yet, Charlie did not connect the gradual release of responsibility with students becoming more engaged and showing complex thinking skills. Pat found the strategies in the WMLAC useful for all students, not a curriculum exclusively for GT students. Quinn avoided the question and responded that planning with the team supported instructional delivery.



The participants recognized shifts in student behavior and instructional practices but could not determine how the planning and feedback supported their abilities to differentiate (Raphael, Vasquez, Fortune, Gavelek, & Au, 2014).

Throughout the planning sessions, the GT resource teacher described participants' instructional practices as amazing, effective, and creative for providing evidence for the theme of relationships. The GT resource teacher consistently described the participants as efficient in planning and lesson development. She commented on the unique ways that each participant taught the literature web lesson. Quinn received praise for modeling the lesson and adapting the literature web into a format more familiar to students. Following the first online lesson, the GT resource teacher described the differentiated teaching behaviors as amazing during the lesson and praised the participants for implementing creative teaching strategies in the online platform. The GT resource teacher stated the participants independently differentiated for students and "encouraged open-mindedness" from the students. This praise preceded a question to allow the team time to consider ways to think of "some way to build in with the online format and have group work or partner work as we go through the lessons."

The participants enjoyed planning together and working with the GT resource teacher, supporting the theme of relationships (see Griffith et al., 2014; Kraft & Blazar, 2017; Latz et al., 2008). Charlie said the planning sessions provided the opportunity to reflect on the curriculum and find ways to personalize it, rather than explicitly following the manual. Quinn reflected that moving online slowed the pace of the lessons, and students could not conduct independent research. The participants believed teaching the lessons in isolation created a loss of momentum and harmed student interest compared to the face-to-face experience. [According to the researcher's log and focus group interview, the participants believed their professional](#)

experiences in the intervention were helpful and changed how they implemented the WMLAC.

The most helpful strategies included watching recorded lessons and sharing ideas in the planning sessions. During the focus group interview, Quinn commented that opportunities to see colleagues teach rarely happens, and it was beneficial to see how others implemented the lessons.

Quinn agreed with the positive shifts noted by Charlie and Pat, especially when instruction went online. Quinn observed that some students who did not participate in face-to-face instruction contributed to the online discussions. During the second planning session, Quinn referred to this student as a “disaster,” yet Quinn’s perspective shifted after working with the student online. Data from the planning session recordings and the researcher’s log showed that as Quinn provided opportunities for the child to show academic success, the student became more of a leader and respected by peers. As the participants provided more opportunities for students to take responsibility, they observed positive changes in students’ academic success (see Guskey, 2002). Evidence from the planning sessions and focus group showed that as the teachers saw students thriving, the teachers’ professional efficacy and belief in their abilities to teach GT students changed (see Guskey, 2002; Szymanski et al., 2018).

***How did you use the feedback from the resource teacher?*** All three participants stated the GT resource teacher feedback was helpful, but the planning sessions were the most helpful in supporting the participants’ confidence and feelings of efficacy in implementing the WMLAC (see Griffith et al., 2014; Kraft & Blazar, 2017; Latz et al., 2008). Quinn remarked that the planning sessions provided opportunities to set goals. In addition, Quinn stated, “The ability to plan with the team provided opportunities to consider different ways to teach the lessons.”

Pat claimed the online platform helped more than the feedback. Pat often questioned lesson delivery, and once teachers were online and recording lessons, Pat would watch the other

participants' lessons for ideas and validation. By watching other participants' lessons, Pat gained confidence in pedagogical abilities.

Similarly, Charlie remarked that having the dedicated time to plan and pick the lessons apart increased comfort with the WMLAC. Also, Charlie commented feeling supported by the GT resource teacher feedback, which allowed Charlie to implement the WMLAC successfully. Charlie also shared doubts about participation and claimed to feel hesitant and uncomfortable at the onset of the intervention. Charlie appreciated getting feedback to learn what others had done and then using that feedback to plan for future lessons.

## **Conclusions**

In sum, the teachers reported having a positive experience in the intervention. All three participants enjoyed working together to share ideas and strengthen pedagogical practices. The participation in the intervention supported teachers' overall beliefs about gifted students and helped eliminate some previously held stereotypes about GT students. The participants appreciated the positive feedback from the GT resource teacher and the opportunity to "pick apart" lessons in planning to support the participants' pedagogical understanding.

An important theme that emerged from the participants was time. The participants remarked that in the past, they had never planned together for GT students. The participants appreciated the time dedicated to planning for GT students, but the participants commented it was challenging to find the time to meet and plan lessons. According to the researcher's notes, the participants commented that finding time to plan and complete other professional obligations proved challenging. Once the participants moved online, the participants claimed the online planning helped them feel more successful with lesson implementation. However, according to the planning session recordings, Pat commented that finding the time to teach GT students

virtually was extremely challenging, given the additional obligations of converting lessons to an online format.

Throughout the intervention, the three participants relied on each other to create and share materials and ideas, which provided an emerging theme of relationships. Once lessons moved online, one participant expressed concerns about efficacy in using technology. The two remaining participants volunteered to share materials, and they provided extra planning time to support the participant in moving to an online platform. The participants stated that they often worked through the manual, but having time to share ideas allowed them to try new ways of implementing the WMLAC. The GT resource teacher commented this was a personal goal, to have the participants implement the lessons with creativity and personal investment. According to planning session recordings, the focus group interview, and notes from the researcher log, one positive feature of the online platform included the teachers becoming more innovative and creative with lessons.

As the participants received feedback from the GT resource teacher, the participants gained confidence in their abilities to teach GT students and increased their collective efficacy, according to planning session recordings and notes from the researcher log. At the onset of the study, supporting teacher efficacy with GT students was a focus. The needs assessment findings did not show to what extent teachers doubted their abilities to teach GT students. The participants remarked on being hesitant and lacking confidence in their ability to meet the needs of GT students by the end of the intervention. Both Charlie and Pat commented being worried about implementing lessons correctly at the onset of the intervention but enjoyed the flexibility of moving online and adapting lessons in new ways. A shift for Quinn included enjoying teaching the vocabulary lesson online. Quinn became very excited using online tools and

commented that, in future years, Quinn will absolutely continue to teach the vocabulary lesson using online tools. This is an important finding as Quinn was the most hesitant to move to online instruction and worried the lessons would be ineffective.

## **Discussion**

This study's findings are discussed based on teacher epistemological beliefs, use of feedback, and perception of student learning behaviors. The findings were framed using Guskey's (2002) model for teacher change, showing the teachers implemented new learning and saw student academic gains, and the teachers could shift their attitudes and beliefs. Based on research on professional learning, interventions should be ongoing and relevant to the participants' work (Jensen, 2001). The intervention mirrored best practices for professional learning, including relevance and time for reflection (Darling-Hammond et al., 2017; Desimone & Garet, 2015); however, it was unclear if the intervention resulted in a permanent change in teaching practices.

**Epistemological beliefs.** Initially, as with existing research, the participants shared somewhat negative beliefs about gifted students (see Bégin & Gagné, 1994a; McCoach & Siegle, 2007). Throughout the research, the teachers held more negative beliefs about gifted boys, as Preckel et al. (2017) found; the teachers of gifted boys believed the boys were more antisocial than girls and less willing to complete assigned work than gifted girls. At the beginning of the current study, negative comments were directed to the boys. During the final planning session and focus group interviews, all three participants were surprised at how much the boys would contribute to discussions. These findings aligned with Matheis, Kronborg, Schmitt, and Preckel (2017) that teachers would change their beliefs when they had more positive experiences teaching GT boys.

However, as the participants received feedback from the GT resource teacher during the planning sessions, they reported seeing students more actively engaged and taking responsibility for learning, like existing research (see Prast et al., 2018). When teachers receive professional development in differentiation, student achievement increases (Prast et al., 2018). As the teachers noted more student engagement, the participants became more engaged in planning sessions and sharing ideas about their gifted students, aligning with research findings (see Guskey, 2002).

Based on planning session recordings, the teachers used these planning sessions to share ideas and gain confidence in their abilities to differentiate for students; according to research, this change may increase teacher confidence in implementing strategies for gifted learners (Starko & Schack, 1989). As the GT resource teacher illuminated instruction and student engagement changes, teachers expressed a willingness to attempt new strategies that aligned with the theoretical framework and existing research (see Guskey, 2002; Kitantas et al., 2017; Young & Balli, 2014). According to Guskey's (2002) model for teacher change, as teachers change practices and see students benefitting from their instruction, they will begin to change their beliefs and attitudes. Kitantas et al. (2017) found that as GT students received challenging work, the GT students would enjoy school more and engage with instruction more. Similarly, Young and Balli (2014) found that when GT students had challenging work, they would enjoy school more and demonstrate more creative and critical thinking behaviors. As the teachers gained confidence in differentiation in the current study, they noticed that students were more engaged and willing to share unique and creative ideas than before. As mentioned previously, this finding emerged from participants' negative talk about students being lazy and unmotivated at the beginning of the intervention to being engaged and creative thinkers by the end of the intervention.

**Classroom practices.** Based on COS-R (VanTassel-Baska et al., 2005) data, the teachers increased the number of observable behaviors with their gifted students. VanTassel-Baska (2012) and VanTassel-Baska and Hubbard (2019) established that using the COS-R increased teachers' differentiated teaching behaviors. Similarly, Dixon et al. (2014) found that teachers felt more efficacious with differentiation strategies as they received differentiation feedback. Using the COS-R provided the participants in the current study with feedback on classroom practices, aligning with the literature that teachers receiving and responding to feedback could change their instructional practices (Dixon et al., 2014; VanTassel-Baska, 2012).

When teachers have time to plan collaboratively and share strategies, they gain confidence in their pedagogical practices (Bruce & Ross, 2008). As the participants co-planned with one another and the GT resource teacher, they shared ideas and asked each other questions, aligning with researchers who found the same results (see Bruce & Ross, 2008; Sakiz, Pape, & Hoy, 2012). As the planning sessions continued, the team relied less on the GT resource teacher for planning ideas and utilized the GT resource teacher for sharing materials of instruction.

### **Limitations**

This study's limitations included the sample size, the requirement of adherence to the WMLAC, and the shift to virtual learning. The small sample size makes the results less generalizable. The data collected provided a rich description of the participants' experiences; however, Tashakkori and Teddlie (2003) cautioned that case study research lacked breadth. The three participants collaborated and shared feedback from the GT resource teacher. However, it was unclear if a larger sample population could engage in planning and sharing ideas in the same way. The GT resource teacher commented the small size was beneficial because it allowed the GT resource teacher to feel connected to the participants. The GT resource teacher said typical

workshop models do not allow relationships to be built and that establishing a personal connection with each participant was “one of the greatest features of this project.” It might be challenging to replicate the conditions for a larger sample population to work closely and share ideas collaboratively to build a supportive rapport like the study participants.

The interrupted timeline and district expectations affected implementing the WMLAC. Teaching the lessons in isolation without follow-up work created a concern regarding fidelity in the implementation of the WMLAC. Because of district requirements, the teachers could not assign follow-up work or provide online space for students to work in small groups during school closure. This limitation influenced the fidelity of the implementation. Additionally, the teachers were initially commended for their expertise in curriculum planning and delivery. However, online teaching was unfamiliar for all three participants. It is not clear if they would have been rated higher on the COS-R if schools had remained open. Further, only five lessons were implemented in the course of the intervention. This constitutes approximately half of the WMLAC unit. A longer study for the duration of a unit would allow a researcher to draw stronger conclusions.

In addition to the adherence to the WMLAC model, the participants experienced a shift from face-to-face instruction to teaching the curriculum online. All three participants were familiar with Google Classroom but were unfamiliar with allowing student collaboration by using Google Classroom tools. The participants used the planning time to share ideas on modifying lessons to an online platform, which limited the time spent on the GT resource teacher’s modeling lessons. The shift to online allowed the participants an opportunity for growth. Charlie, the least experienced, became a leader at adapting lessons to allow for student partner work. The GT resource teacher described Charlie as a digital native and a “natural” at



creating online lessons. Quinn, the most experienced, struggled with anxiety when faced with online lessons. However, both Pat and Charlie supported Quinn by sharing lessons and strategies to help Quinn become more confident with online teaching. Using evidence from recorded lessons, the focus group interview, and planning sessions, it is unclear how the online format changed lesson delivery. The participants all mentioned struggling to get used to teaching online during lesson three, where COS-R ratings declined in almost all domains. However, as the participants planned together, ratings increased in Lessons 4 and 5.

Finally, each participant approached each lesson in a unique way based on comments by the GT resource teacher. It would be beneficial for participants to select one part of the COS-R to focus on for each observation. The GT resource teacher indicated each lesson would not include all components of the COS-R. Therefore, by focusing on one or two areas at each lesson may help participants focus on their pedagogical practices.

Additionally, it would be beneficial for the researcher to maintain close communication with the GT resource teacher throughout the intervention. During face to face school, the researcher and GT resource teacher had opportunities to briefly talk following observations and discuss potential next steps for the planning sessions. For example, the idea of the participants observing each other. However, following the school closure, the researcher and GT resource teacher did not continue these meetings. By connecting with the GT resource teacher more regularly, the researcher would be able to monitor fidelity of implementation throughout the intervention.

### **Implications for Practice**

There are several implications for practice based on increasing teacher beliefs toward teaching gifted students language arts. Teachers may believe gifted students have a right to an

education but may not know how to differentiate to meet the needs of the students (McCoach & Siegle, 2007; Szymanski et al., 2018). By providing teachers the opportunity to plan for gifted students collaboratively with a GT resource teacher, teachers became more reflective and saw their students in a more positive way. For future practice, allocating time for teachers of gifted students to plan lessons with each other can support teachers having a greater change in epistemological beliefs and can improve outcomes for students.

The teachers valued the feedback from the GT resource teacher because it was positive. The GT resource teacher noted that at the onset of the intervention the teachers needed a cheerleader, and that was how the resource teacher saw their role in the intervention. Further, the teachers commented that working as a team and sharing ideas became more beneficial to their pedagogical practices than the GT resource teacher's written and oral feedback. The participants also noted that being able to watch each other teach helped them refine their teaching practices. Continuing video recording lessons for teachers to view is a recommendation to allow more teachers to share ideas. This finding was coincidental as it was not in the initial research design.

In addition, the GT resource teacher commented the experience in the intervention was gratifying. The GT resource teacher commented the district should consider adopting a model similar to the intervention because the GT resource teacher could provide direct support to participants and see how they implemented planning into practice. The GT resource teacher stated seeing the participants become comfortable with the curriculum and being receptive to feedback helped drive the direction of the intervention. The GT resource teacher mentioned that being able to model lessons and see how the participants each put a unique spin on the lessons gave the GT resource teacher an enthusiasm for each planning session. Additionally, as the

participants came eager and ready to plan for each session, the GT resource teacher commented feeling more connected to the participants and enthusiastic for the planning.

Finally, it would have been helpful to set a goal for each planning and observation cycle. The GT resource teacher provided a schedule (Table 15), and each planning session had a curriculum-based focus. However, only Quinn set a professional goal for some observations. Knowing that not all parts of the COS-R would be observed in each lesson, allowing each participant to make a goal for the lesson focus may have helped participants recognize strengths in lesson delivery and allow participants to see evidence of their instructional practices in student behaviors.

Additionally, the participants and GT resource teacher commented on the importance to have time to not only collaboratively plan for GT students but also to have feedback on lesson implementation. Quinn remarked several times not ever having the opportunity to have feedback on WMLAC. Charlie also commented that the feedback afforded Charlie the opportunity to focus on positives in lessons. Pat enjoyed being able to watch other lessons and use ideas shared in planning to add to Pat's lesson implementation. The GT resource teacher mentioned that by co-planning and watching each other's lessons, the participants became more confident and added "particularly with this curriculum they need to feel confident; they need to demonstrate creativity and personal investment." It was the opinion of the GT resource teacher that the intervention model allowed participants opportunities for creativity and personal investment in a non-evaluative atmosphere.

### **Implications for Future Research**

Research on supporting teachers of GT students requires more study (Gagné, 2018; McCoach & Siegle, 2007; Szymanski et al., 2018). The current study showed evidence that the

teachers enjoyed working together to plan for gifted students. One future research area is to incorporate videotaped lessons for teachers to see colleagues implementing lessons with GT students. Prior research shows that when teachers observe recorded lessons and collaboratively plan, teachers feel more efficacious implementing new strategies (Sakiz et al., 2012). Watching video lessons can support their pedagogical growth in teaching GT students. When teachers can see colleagues, it increases not only professional efficacy but also collective efficacy and benefits students (Sakiz et al., 2012). A study design with video recordings can add to the body of research. For example, if teachers video a lesson highlighting a specific teaching strategy to share with colleagues, they may gain ideas to add to their pedagogical practices, supporting best practices for GT and all students.

Further research is also needed in the identification of GT students. Students in the global majority are under identified for gifted programs (Barshay, 2016; Berlin, 2009; Carman, 2011; Foreman & Gubbins, 2015). In the current context, teachers use a rubric to score artifacts for student portfolios. These portfolios become part of the GT identification process. Teachers independently score artifacts for their own students. In addition, students participate in the Cognitive Abilities Test, a non-verbal measure of cognitive abilities, and academic testing. Research shows the CogAT under identifies non-white students for gifted programming (Carman & Walther, 2018; Geissman, Gambrell, & Stebbins, 2013).

More research is needed to determine the variables that most directly affect epistemological beliefs. Shifts in epistemological beliefs were noted in this small sample. Still, it was unclear if these shifts occurred based on the GT resource teacher's oral or written feedback or from the participants' collaborative planning. A future researcher can use a larger sample size and extend the study time for the entire WMLAC units to provide more data points.

Future researchers can seek to understand the student experience. When teachers are more engaging, students enjoy lessons more (Gordon et al., 2007; Hughes et al., 2011). When teachers see students more engaged, such teachers are more likely to continue implementing instructional strategies (Gordon et al., 2007; Guskey, 2002). Knowing the GT students' voices and sharing their viewpoints with teachers may reinforce teachers' professional efficacy and support their abilities to provide appropriate instruction for GT students. A qualitative study of student interviews at the onset of the WMLAC, at the midpoint, and the conclusion can provide data from the student perspective. The initial and midpoint student interviews may steer instruction to allow the instructor to meet students' needs better.

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## Appendix A

### Survey Instrument

1. Our schools should offer special education services for the gifted.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
2. The gifted need special attention to fully develop their talents.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
3. Tax payers should not have to pay for special education for the minority of children who are gifted.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
4. Gifted education is a privilege  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
5. Since we invest supplementary funds for funds for children with difficulties, we should do the same for the gifted.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
6. All special programs for the gifted should be abolished.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
7. Special programs for gifted children have the drawback of creating elitism.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
8. Special educational services for the gifted children are a mark of privilege.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
9. When the gifted are put in special classes, the other children feel devalued.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
10. By separating students into gifted and other groups, we increase the labeling of children as strong-weak, good-less good, etc.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
11. The gifted are already favored in our schools.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
12. Gifted children might become vain or egotistical if they are given special attention.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
13. Gifted education is a right  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree

14. Gifted education separates students into superior and “less-than” groups.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
15. The mastery of basic skills is more critical than letting a few students get further and further ahead.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
16. The public has a greater responsibility to help children who are below average in intelligence than to help children who are above average in intelligence.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
17. Funding for gifted education reduces the amount of resources available for students who need accommodations for other special needs.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
18. Most students are not gifted, so gifted students should NOT be the focus of the teacher’s attention.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
19. Grouping gifted children together is unfair even if shown to be effective.  
Strongly Agree 1      2      3      4      5      6      7 Strongly Disagree
20. Indicate which courses you teach:  
Reading                      Math                      Science                      Social Studies



## **Appendix B**

### **Focus Group Interview Questions**

1. How would you define a gifted learner?
2. Do you think gifted education is a privilege?
3. Do you think grouping gifted students together helps you as a teacher?
4. What has prepared you to teach gifted learners?
5. What are the best opportunities for gifted students to learn?
6. When do you feel most effective teaching gifted students?

## Appendix C

### Logic Model

#### Situation

Regular education elementary teachers have training in strategies with gifted learners. However, they often have limited experience utilizing the strategies, specifically in language arts. Therefore, the gifted students often rush through work, or do not engage with assignments which, in turn, has teachers questioning their efficacy as teaching professional.

#### Tables

Table C1

#### *Logic Model Outputs*

Inputs	Outputs	
	Activities	Participation
People Elementary teachers in grade 4, Gifted and Talented Resource Teacher.	Refresh PD on William and Mary Curriculum during collaborative planning.	Teachers engage in the training.
Time Bi-weekly co-planning sessions (30-45 minutes). Bi-weekly observations (30 minutes).	Teachers establish learning goals for their gifted students.	Creation of SLO for gifted students. Students take pre-assessment.
Materials William and Mary Language Arts Curriculum, observation log.	Implementation of the curriculum.	Teachers plan and deliver the lessons to the identified students.
Technology email, shared drive of materials online.	Resource teacher provides informal observations and feedback.	Students take pre- and post-assessments. Resource teacher observes teachers teaching the William and Mary Curriculum. Teachers receive timely feedback orally and in writing.
Financial none identified at this time.	Teachers reflect on the unit and their students' progress during interviews.	

*Assumptions.* When teachers receive planning support and coaching in strategies with gifted students, their efficacy in teaching gifted students will increase.

Table C2

*Logic Model Outcomes*

Inputs	Outcomes -- Impact		
	Short	Medium	Long
People Elementary teachers in grade 4, Gifted and Talented Resource Teacher. Time Bi-weekly co-planning sessions (30-45 minutes). Bi-weekly observations (30 minutes). Materials William and Mary Language Arts Curriculum, observation log. Technology email, shared drive of materials online. Financial none identified at this time.	Teachers implement the William and Mary Curriculum.  Teachers monitor the progress of GT students in Language Arts.  Teachers establish a relationship with the resource teacher.	Teacher feels more effective using strategies with gifted students.  Teachers continue to implement William and Mary strategies to challenge GT students.  Teachers continue to use resource teacher to plan and develop lessons for advanced students.	Gifted students are given appropriately challenging work allowing them to feel successful and engaged in school.
<i>External Factors.</i> Missed planning sessions poor relationship between coach and teacher, lack of fidelity in implementation.			

## Appendix D

### Observation Scale

#### *The William and Mary Classroom Observation Scales, Revised (Part 2)*

##### *Teacher Observation*

Joyce VanTassel-Baska, Ed.D.    Linda Avery, Ph.D.    Jeanne Struck, Ph.D.    Annie Feng, Ed.D.  
Bruce Bracken, Ph.D.    Dianne Drummond, M.Ed.    Tamra Stambaugh, M.Ed.

**Directions:** Please employ the following scale as you rate each of the checklist items. Rate each item according to how well the teacher characteristic or behavior was demonstrated during the observed instructional activity. Each item is judged on an individual, self-contained basis, regardless of its relationship to an overall set of behaviors relevant to the cluster heading.

3=Effective	2=Somewhat Effective	1=Ineffective	N/O = Not Observed
The teacher evidenced careful planning and classroom flexibility in implementation of the behavior, eliciting many appropriate student responses. The teacher was clear, and sustained focus on the purposes of learning.	The teacher evidenced some planning and/or classroom flexibility in implementation of the behavior, eliciting some appropriate student responses. The teacher was sometimes clear and focused on the purposes of learning.	The teacher evidenced little or no planning and/or classroom flexibility in implementation of the behavior, eliciting minimal appropriate student responses. The teacher was unclear and unfocused regarding the purpose of learning.	The listed behavior was not demonstrated during the time of the observation.  (NOTE: There must be an obvious attempt made for the certain behavior to be rated "ineffective" instead of "not observed".)
<b>General Teaching Behaviors</b>			
<b>Curriculum Planning and Delivery</b>		<b>3</b>	<b>2</b>
<b>The teacher...</b>		<b>1</b>	<b>N/O</b>
1. set high expectations for student performance.			
2. incorporated activities for students to apply new knowledge.			
3. engaged students in planning, monitoring or assessing their learning.			
4. encouraged students to express their thoughts.			
5. had students reflect on what they had learned.			
<b>Comments:</b>			
<b>Differentiated Teaching Behaviors</b>			
<b>Accommodations for Individual Differences</b>		<b>3</b>	<b>2</b>
<b>The teacher...</b>		<b>1</b>	<b>N/O</b>
6. provided opportunities for independent or group learning to promote depth in understanding content.			
7. accommodated individual or subgroup differences (e.g., through individual conferencing, student or teacher choice in material selection and task assignments.)			
8. encouraged multiple interpretations of events and situations.			
9. allowed students to discover key ideas individually through structured activities and/or questions.			
<b>Comments:</b>			
<b>Problem Solving</b>		<b>3</b>	<b>2</b>
<b>The teacher...</b>		<b>1</b>	<b>N/O</b>
10. employed brainstorming techniques.			
11. engaged students in problem identification and definition			
12. engaged students in solution-finding activities and comprehensive solution articulation.			
<b>Comments:</b>			

<b>Critical Thinking Strategies</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>N/O</b>
<b>The teacher...</b>				
13. encouraged students to judge or evaluate situations, problems, or issues				
14. engaged students in comparing and contrasting ideas (e.g., analyze generated ideas)				
15. provided opportunities for students to generalize from concrete data or information to the abstract.				
16. encouraged student synthesis or summary of information within or across disciplines.				
<b>Comments:</b>				
<b>Creative Thinking Strategies</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>N/O</b>
<b>The teacher...</b>				
17. solicited many diverse thoughts about issues or ideas.				
18. engaged students in the exploration of diverse points of view to reframe ideas.				
19. encouraged students to demonstrate open-mindedness and tolerance of imaginative, sometimes playful solutions to problems.				
20. provided opportunities for students to develop and elaborate on their ideas.				
<b>Comments:</b>				
<b>Research Strategies</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>N/O</b>
<i>(It is atypical for these to be observed in one session. Some teachers, however, may use Items #21-25 within a single period to illustrate the full research process to students. Please note those observations in the comments section.)</i>				
<b>The teacher...</b>				
21. required students to gather evidence from multiple sources through research-based techniques (e.g., print, non-print, internet, self-investigation via surveys, interviews, etc.).				
22. provided opportunities for students to analyze data and represent it in appropriate charts, graphs, or tables.				
23. asked questions to assist students in making inferences from data and drawing conclusions.				
24. encouraged students to determine implications and consequences of findings.				
25. provided time for students to communicate research study findings to relevant audiences in a formal report and/or presentation.				
<b>Comments:</b>				
<b>Additional Comments:</b>				

## **Appendix E**

### **Instructional Practices Questionnaire**

#### **Cognitive**

Students are given opportunities to

1. develop critical reading skills (e.g., I assign advanced level reading, use advanced text, or provide advanced novels on themes discussed in class).
2. demonstrate brainstorming skills (e.g., I ask students open-ended questions, provide advanced learning tasks at learning centers, or provide activities to encourage students to generate ideas).
3. develop thinking skills (e.g., I teach units on thinking skills, use advanced computer program, or use puzzles or word searches.).
4. utilize imagination or visualization (e.g., I provide visual material to be interpreted, engage students in visualization exercises, or assign activities in which students demonstrate visual thinking such as creative artwork or writing).
5. develop writing skills (e.g., I assign teacher-selected creative writing projects, coach students on writing skills, or assign homework so students can practice learned writing skills on self-selected topics).
6. create figurative language (e.g., I encourage students to participate in class discussions, assign creative or expository writing projects, or encourage students to share ideas, information, and interests).
7. practice problem solving (e.g., I incorporate problem-solving activities in the grade level curriculum, provide competitive problem-solving programs, or provide questions that encourage reasoning and logical thinking).

8. interpret information from various sources (e.g., I encourage research-based reports, assign book reports, or encourage students to compare and contrast ideas from advanced materials).
9. demonstrate transference (e.g., I provide opportunities for students to use prior knowledge when solving problems, encourage students to relate facts to real life, or teach students how information in one situation can be used in another situation).
10. distinguish fact and opinion (e.g., I coach students on ways to distinguish fact from opinion, provide exercise materials for students so they identify information as fact or opinion, or have students gather facts and opinions as part of homework).
11. determine relevance and irrelevance (e.g., I require evidence or proof, encourage students to check for accuracy, or encourage students to evaluate whether information is relevant).
12. accept challenges in learning (e.g., I encourage students to ask high-level questions, help students set criteria for high quality, or encourage students to tackle problems that are considered difficult for their grade level).

## **Interpersonal**

Students are given opportunities to

1. refine relationships with their gifted peers (e.g., I sometimes group students by their ability level, provide opportunities for students to work with other advanced students, or encourage students to demonstrate the ability to work cooperatively as a group member of gifted peers).
2. refine relationships with peers from regular education (e.g., I use cooperative group activities, encourage students to organize interest-based groups, or encouraging

- students to appreciate different learning styles exhibited by other members of the group).
3. develop leadership skills (e.g., I assign students to various leadership positions, describe students' various leadership styles, or provide group activities where various leadership styles can be practiced).
  - (4) practice active listening skills (e.g., I demonstrate active listening using activities such as role-play, encourage students to provide constructive feedback on their peers' oral presentations, or use group activities where listening skills are encouraged to be used).
  4. practice decision-making within a group setting (e.g., I have students establish activity groups on their own, provide group discussion that requires group decision, or encourage students to demonstrate the ability to compromise for the good of the group).
  5. cooperate with group members (e.g., I encourage students listen to others' suggestions when they participate as a member of a group, use a reward system in which the success of the group is determined by group's efforts, or encourage students to do their best to contribute to their group).
  6. experience risk-taking (e.g., I encourage advanced questions, provide competitive problem-solving activities, or assign activities and games that require high level thinking skills).
  7. demonstrate empathy (e.g., I design units of study in which students have to consider another person's point of view, encourage students to consider the opinion of others, or set a stage for students to recognize other students' social and emotional needs).



8. demonstrate communication skills (e.g., I demonstrate oral presentation skills using activities such as role-play, coach individual students to improve communication skills whenever an opportunity arise, or provide group activities for the purpose of improving communication skills).
9. practice group dynamics (e.g., I provide opportunities for students to demonstrate self-discipline during small-group activities, encourage group members to keep the group on task, or encourage group members to consider individual differences in the way other students approach group activities).

### **Intrapersonal**

Students are given opportunities to

1. pursue interests of their own (e.g., I allow in-class time for individual projects, assign writing projects on topics selected by student, or allow students to choose their own topics for research projects).
2. demonstrate initiative (e.g., I encourage students to establish goals, use learning centers whether students can choose their own activities, or use programmed instructional materials with which students can initiate and monitor their own learning).
3. demonstrate decision-making for individual activities (e.g., I encourage students to select topics for independent study, allow students to choose work areas other than class, or consider individual students' opinion in allocating time for their projects).
4. set goals in a self-selected interest area (e.g., I use contracts for individual projects that allow students to list their goals, encourage students to set proper level goals for projects, or help students develop a long-term goal).

5. demonstrate task commitment (e.g., I use enrichment activities that encourage students' commitment, use self-instructional kits that contain interesting tasks, or encourage students to demonstrate the ability to keep on task).
6. increase autonomy (e.g., I provide students with projects that require their initiative, assign projects that allow students to plan and manage independently, or allow students to work by themselves).
7. demonstrate responsibility (e.g., I help students realize every action comes with a consequence, hold students responsible when they do not turn in homework assignments, or encourage students to complete a given task even when it is a difficult one).
8. understand and expand their learning styles (e.g., I help students understand that individuals have varied learning styles, provide homework where they can use their preferred learning styles, or tell students think of different ways of studying when their way of studying does not help them learn).

## **Appendix F**

### **Interview Questions**

1. To what extent do you believe you are able to differentiate lessons to meet the academic needs of your students?
2. What changes to your instructional practices, if any, have occurred as a result of your participation?
3. What part of the intervention was the most beneficial for you professionally: the feedback or the planning sessions?
4. As a result of your participation, what changes, if any, did you see in your students?
5. How did you use the feedback from the resource teacher?
6. Is there anything else you think I should know?

## Curriculum Vitae

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## Experience

2012 To Present

**Assistant Principal, ANNE ARUNDEL COUNTY PUBLIC SCHOOLS, MD**

Instructional leader applying best practices to help grow the professional capacity of teachers. Supporting students on their academic journey. Working closely with the community to provide resources to support needs. Provided school wide support as a testing coordinator and 504 facilitator.

1998 – 2012

**Elementary Teacher, ST. MARY'S COUNTY, MD; ANNE ARUNDEL COUNTY, MD**

Served as an educator in grades 1,2, and 4. Have worked with special education and gifted populations. Provided services as a gifted resource teacher and technology coach.

## Education

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**Doctor of Education, THE JOHNS HOPKINS SCHOOL OF EDUCATION**

Mind, Brain and Teaching focus. Dissertation title: Supporting Language Arts Instruction for Gifted Fourth Grade Elementary Students Through Coaching and Co-Planning

May 2008

**Master of Education, GOUCHER COLLEGE**

School Improvement Leadership focus. Thesis title: Supporting Equitable Practices Using the TESA Framework.

June 1998

**Bachelor of Psychology, ST. MARY'S COLLEGE OF MARYLAND**

Dual degree of Psychology and Education.

## Organizations

- ASCD
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