SUPPORTING GIFTED STUDENTS IN THE REGULAR EDUCATION ELEMENTARY CLASSROOM THROUGH DIFFERENTIATED INSTRUCTION

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A Thesis

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Differentiated instruction has been suggested through research as a way to ensure that all students in today’s diverse classrooms the chance to succeed. However, there is a misconception that gifted students are able to differentiate instruction for themselves to provide the academic challenges necessary for intellectual growth. A third grade gifted pull-out program called FIND (Furthering Interests and Nurturing Development) was studied in an attempt to determine strategies of differentiated instruction which could be employed for gifted elementary students in a regular education classroom. This study used the qualitative research method of phenomenology. Data collected through observations, questionnaires, classroom and student artifacts and an interview to understand the experiences of the participants. The study concluded that an independent study project is a viable option for supporting students in the regular education classroom. This is especially true if the independent study is supported through pre-assessment, conferencing and goal setting. The study also concluded that teachers and students believe that providing gifted students with challenging work is necessary for their intellectual growth.
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CHAPTER I: INTRODUCTION

Since the No Child Left Behind Act was signed into law in 2002, the nation’s educational systems have been almost exclusively focused on schools’ and students’ performance on standardized tests. Classroom teachers are understandably worried that their students will not perform well on standardized tests (Moon, Brighton & Callahan, 2003). Due to the diversity that is present in every classroom in the nation, classroom teachers must find a way to teach that gives every student the opportunity to learn. Research suggests that differentiated instruction is one way to give every student the chance to succeed (Beecher & Sweeny, 2008; Fisher, Frey, & Williams, 2003; Latz, Neumeister, Adams, & Pierce, 2009; Rock, Gregg, Ellis, & Gable, 2008; Tomlinson, 1995).

According to Wormeli (2007) differentiating instruction is modifying the curriculum to give every student an opportunity to learn successfully. Student success should be measured in terms of reaching one’s potential, and not only from results on a yearly standardized test (O’Meara, 2010). Often, teachers make the assumption that if a student scores at least “proficient” on state tests, they are succeeding (Levy, 2008; Manning, Stanford & Reeves, 2010; O’Meara, 2010). However, a student who is gifted may not be showing growth simply by passing this test. This student’s potential may be much higher. The only way for a student who is gifted to reach this high potential is to be supported in their regular education classroom.

Statement of the Problem

There is a common misconception among regular education teachers that gifted students have the ability to differentiate instruction for themselves to create the higher level of thinking and learning they require for intellectual and academic growth (Heacox, 2002; Manning et al., 2010). While classroom teachers may believe pull-out programs offer the support gifted students
need, some researchers and experts in the field feel that these programs do not provide this group of students with the challenges that are essential to their learning (Manning et al., 2010; Moon et al., 2003; Tomlinson, 2000). Kingore (2002) asserts that students must be challenged to continue developing academically. With this in mind, regular education teachers need to be supported in challenging their gifted students in order to ensure the further development of their abilities and talents.

In addition, the current state of funding for schools and programs makes it even more crucial for regular education teachers to be aware of the best ways to support the gifted students in their classrooms. Cuts in funding for gifted programs are being discussed as a possibility for lowering costs in schools throughout Ohio [personal communication, March 29, 2011]. If this does happen, this would eliminate essentially all gifted pull-out programs and support teachers.

It seems that teacher education programs often spend little, if any, time on supporting gifted students. This was the case in my undergraduate education program. In a class designed to teach pre-service teachers how to support students with special needs, the chapter of the text about gifted students was skipped. In no other class was the idea of gifted students having needs that differ from typically developing students addressed. Consequently, regular education teachers, including myself, are often unaware of the strategies that can be used to support the gifted students in their classroom.

Throughout both my undergraduate and graduate programs, I have had the opportunity to observe and participate in many elementary classrooms. In one particular kindergarten classroom, a student who was able to read in the third week of school caught my attention. While it seemed that the teacher did recognize his advanced level, she seemed at a loss as to
what she could do for him. Since my time in that classroom, I have noticed the same issue in several classrooms.

In an attempt to find solutions to the problem of regular education teachers being unprepared to support gifted students in their classrooms, this study examined the methods used in an elementary gifted pull-out program. This was done in an attempt to ascertain differentiated instruction strategies that could be used to provide gifted elementary students the education they need. The regular education classroom should offer gifted students challenges that would allow them to reach their full potential.

**Research Questions**

The first step in supporting regular education teachers is to discover how to teach gifted students in the regular education setting. Therefore, this study attempted to answer the following research questions: 1) What strategies do educators of gifted elementary students use in gifted pull-out programs? 2) What do teachers and students believe is necessary to support gifted students’ learning in a regular education classroom?

**Summary of Chapters**

The following chapters include a review of literature, an explanation of the methodology and participants, results, a discussion and implications for teachers and areas for further research. Chapter Two is comprised of a review of current literature on differentiated instruction and gifted education. Literature on differentiated instruction suggests three areas in which to differentiate instruction for all students: the content, the process and the product. Multiple strategies for differentiating instruction for gifted students are proposed in the existing literature. Chapter Three explains the qualitative methodology of phenomenology which guided this study. In addition, the participants, data collection methods and instruments, and the process of data
analysis are discussed in Chapter Three. Chapter Four contains a presentation of the results of
the study, which were gained from observations, classroom artifacts, questionnaires and one
interview. Finally, Chapter Five includes a discussion of the results of the study as they pertain
to the research questions. Chapter Five also includes recommendations for teachers and for
further research as well as a reflection on the research study.

Definition of Terms

Before continuing the study with a review of current literature, certain terms must be
understood in the context of the study. These terms are gifted pull-out programs, gifted students,
superior cognitive ability, and differentiated instruction.

This study observed a third grade gifted pull-out program called Furthering Interests and
Nurturing Development, more commonly referred to as FIND. The third grade FIND classroom
was located at Carter Elementary. The school was one of five upper elementary schools in a
small city school district in northwest Ohio. According to the FIND brochure, gifted pull-out
programs are classes for which students who have been identified as gifted are removed from
their regular education classroom in order to participate in alternative activities specifically
designed to meet the needs of gifted students. Students usually attend these programs at times
scheduled at regular intervals. The FIND program occurs on the same day every week for the
entire school day.

In order to participate in the FIND program, a student must be identified as gifted, or as
having superior cognitive ability based on test scores received on the Terra Nova. For the
purposes of this study, gifted students are understood to be those students who are able to
understand material more quickly, more comprehensively, and more deeply than their same-age
peers. Superior cognitive ability is considered to be the ability to use higher-order thinking in all

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1 All names of schools and participants are pseudonyms
areas of academic work (Renzulli & Renzulli, 2010). In addition to superior cognitive ability, the students may also be identified as gifted in the areas of creative thinking ability, math, language arts, science, social studies, drama, dance, music or visual arts. Many of the students in FIND are identified as gifted in multiple areas by their test scores. The FIND students are identified as having superior cognitive ability through various state-approved tests given in the students’ second grade year. These tests are given to all second grade students in the school district as part of their regular testing during the time the older students are taking the Ohio Achievement Assessments.

Differentiated instruction is the modification of any combination of the content, process or product in order to meet the readiness, interests and learning style needs of the students in a single classroom. The content of learning is what the students are learning. The process is how the students learn and come to understand the content. The product is how the students show what they have learned about the content and how well they are able to apply the knowledge.
CHAPTER II: REVIEW OF LITERATURE

For this research study, the review of literature focused on a) defining differentiated instruction, b) explaining pre-assessment, c) presenting differentiation strategies, d) discussing theories and research that support differentiated instruction, and e) highlighting particular differentiation strategies for gifted and advanced students.

When researching the current literature on differentiated instruction, several resources were found defining differentiated instruction and explaining the areas in which to differentiate. Much more difficult to find were studies on teaching strategies of differentiated instruction, especially strategies for gifted students. Studies on the effectiveness of using differentiated instruction were also scarce.

Defining Differentiated Instruction

Differentiated instruction, as a theory, is centered on making learning meaningful, relevant, and challenging to diverse learners (Heacox, 2002; Levy, 2008; Tomlinson, 1995; Wormeli, 2007). Understandably, due to its attentiveness to individual needs, the definition of differentiated instruction varies slightly from researcher to researcher, teacher to teacher, and even school to school. One part of its definition that seemed to be highly agreed upon is that, in order to implement differentiated instruction, a teacher must be responsive to the learning needs of his or her students (Levy, 2008; Tomlinson, 2000).

Tomlinson (2000) warns teachers not to think of differentiation simply as a strategy. She states “it is a total way of thinking about learners, teaching, and learning” (p. 31). Wormeli (2007) also considers differentiated instruction a philosophy of teaching, with which other strategies can be integrated.
In a study of one middle school’s path to differentiation, Tomlinson (1995), along with the staff and administration of the middle school, agreed upon a working definition of differentiated instruction: understanding the unique qualities of each student and responding to those qualities by modifying content, process and product of learning as necessary. It also is widely agreed that these areas should be differentiated with respect to the readiness, interests and learning profile of each student, which will be discussed further (Cox, 2008; Heacox, 2002; Tomlinson, 2004; Tomlinson & Allan, 2000).

Tomlinson (2004) summed up the idea of differentiated instruction by saying it is “a learned way of thinking about ‘being’ that honors and contributes to the uniqueness and the possibilities of each person in the group, as it honors and contributes to the success of the whole” (p. 189). Manning, Stanford and Reeves (2010), also note the importance of fair over equal, meaning that every student should receive the instruction they need, not the instruction every other child is receiving.

**Pre-Assessment for Differentiated Instruction**

A differentiated classroom “promotes high-level and powerful curriculum for all students, but varies the level of teacher support, task complexity, pacing, and avenues to learning based on student readiness, interest, and learning profile” (Tomlinson, 2000, p. 25). Therefore, a differentiated classroom requires continuous assessment, both formal and informal, of students (Tomlinson, 2004; Callahan, 2001). The first step is to pre-assess students to ascertain their readiness, interests and learning profiles (Cox, 2008; Heacox, 2002; Manning, et al., 2010; Tomlinson, 2004; Tomlinson & Allan, 2000). Renzulli and Renzulli (2010) advocate for keeping a learning profile for each student that highlights their strengths as well as the ways they prefer to learn and show their learning. This would give the teacher a starting point when
planning instruction for each student as to the strategies, processes and products that may be effective for that student.

**Pre-assessing for readiness.** Readiness refers to the ability of a student to work with a particular skillset or topic (Cox, 2008). It also can refer to “where our students are when they come into the process” of learning a skill (Levy, 2008, p. 162). Matching instruction and learning tasks to a student’s readiness level allows for the appropriate levels of challenge and growth for each individual and gives teachers an opportunity to build on prior knowledge and fill in any gaps in student learning (Cox, 2008; Levy, 2008; Manning et al., 2010; Tomlinson, 2004; Tomlinson & Allan, 2000). Based on a student’s readiness portfolio, a teacher can offer differing levels of scaffolding, direct instruction and learning tasks (Tomlinson & Allan, 2000). Students’ readiness levels can be assessed by using end-of-course assessments from both previous and current years, teacher-prepared assessments or oral or informal questioning (Renzulli & Renzulli, 2010; Tomlinson, 2004; Tomlinson & Allan, 2000).

**Pre-assessing for interests.** Differentiating based on student interests can assist teachers in gaining the attention and reaching more of the students, as well as increasing their motivation (Cox, 2008; Heacox, 2002; Tomlinson, 2004). To gauge the interests of students, teachers can use interest inventories, checklists, questionnaires, or any other type of assessment from KWL charts to oral questioning (Manning, et al., 2010; Tomlinson & Allan, 2000). Once students’ interest profiles are formed, teachers can guide students to pursue their interests in a variety of ways (Renzulli & Renzulli, 2010). This can be done by providing various possibilities for investigation of topics or communication of learning (Tomlinson & Allan, 2000).

**Pre-assessing for learning profile.** A student’s learning profile may include his or her preferences in modes of learning (auditory, visual, kinesthetic) and ways of working
(independently, in small groups, lecture, discussion, etc.) as well as strong areas of intelligence, which will be discussed further (Cox, 2008; Heacox, 2002; Renzulli & Renzulli, 2010; Tomlinson & Allan, 2000). Pre-assessing students in order to create a learning profile, and the subsequent matching of instruction and tasks, allows students to learn more efficiently (Tomlinson, 2004). Levy (2008) suggests using questionnaires or learning styles inventories early in the school year to build students’ learning profiles.

**Areas in Which to Differentiate Instruction**

The three main areas agreed upon by many researchers and educators in which instruction can be differentiated were content, process and product (Heacox, 2002; Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007). Each of these areas of differentiation should be indicative of each student’s level of readiness, interest and learning profile (Heacox, 2002; Levy, 2008; Tomlinson and Allan, 2000). According to Cox (2008), the goal of differentiating in these areas is to allow each student to reach their own potential by giving each individual exactly what they need to grow academically. Each student will have learning gaps in different areas and teachers should attempt to work with each student as an individual to close those gaps.

**Differentiating through content.** Content refers to what the students are learning and is definable through objectives or standards (Heacox, 2002; Tomlinson & Allan, 2000; Wormeli 2007). The differentiation of materials, such as the use of manipulatives, software and other types of tools, is included in content differentiation (O’Meara, 2010; Tomlinson & Allan, 2000). Wormeli (2007) cautions that teachers need to follow the principle of “different, not more or less”, keeping in mind that this refers to the amount of time and energy used for an assignment (p. 65).
**Differentiating through process.** Differentiating through process refers to how students learn and understand the content (Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007). This includes various parts such as how the students come to understand the concepts and skills related to the content (Tomlinson & Allan, 2000). Tomlinson and Allan (2000) also refer to this part of instruction and learning as the “activity”. Wormeli (2007) feels that the strategies of teaching and learning that are used are not important, as long as students are learning. In this step of instruction, students can be given choices of activities they may wish to do to learn the material (Heacox, 2002; Tomlinson & Allan, 2000). Wormeli (2007) believes the process is much easier to differentiate than the content because there are fewer requirements in the ways the students are to learn the material than what material the students are required to learn. Process of learning can be differentiated according to the readiness, interests and learning profiles of the students (Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007).

**Differentiating through product.** The product shows the students’ ability to apply what they have learned through the process (Heacox, 2002; Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007). A teacher should encourage students to show what they have learned in various ways. There should be varying levels of difficulty, a variety of resources that can be used and rubrics based on individual and whole-group goals that are developed with the help of the students (Tomlinson & Allan, 2000). Students should be given choices in formative and summative assessments to show what learning has occurred (Heacox, 2002; Tomlinson & Allan, 2000). The products, like the process, should be indicative of the students’ readiness, interests, and learning profiles (Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007). However, teachers may ask that a student work in an area that is not their strength (Heacox, 2002). The products are often how teachers establish whether or not students have learned and understood
the content (Wormeli, 2007). Therefore, they should keep in mind that assessments can take many forms and should differ from student to student to allow the students to show what they have learned (Tomlinson & Allan, 2000; Wormeli, 2007).

**Differentiating through affect and learning environment.** Wormeli (2007) defines affect as “the socio-emotional factors that influence learning” (p. 71). To differentiate for this area, Wormeli suggests teachers make adjustments to accommodate a student’s or a group of students’ needs to feel safe, comfortable, and willing to take risks in their learning. According to Wormeli, learning environment refers to the physical space, including the way it is arranged. The learning environment should be set up for differentiated instruction by providing separate spaces for individual work, group work or small group instruction. Wormeli also includes the way in which disruptions, even those that are viewed as such by only one or two students, are dealt with and minimized as part of affective differentiation. For example, if a student finds the lighting in the classroom to be distracting, the teacher can differentiate the learning environment for that student by placing colored covers on the lights in that student’s working area to dim them.

**Theories and Research That Support Differentiated Instruction**

**Theories that support differentiated instruction.** There are several well-known theories in education and in educational psychology that support the use of differentiated instruction. The two that support it most are Gardner’s theory of multiple intelligences and Vygotsky’s zone of proximal development (Gardner, 1983; Cole, John-Steiner, Scribner & Souberman, 1978).

In his theory of multiple intelligences, Gardner (1983) states that there are many ways individuals think and learn. He originally proposed seven intelligences: linguistic, musical,
logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal. Since the original development of the theory, naturalistic and existential intelligences have also been added (Moran, Kornhaber, & Gardner, 2006). This theory suggests that people use these intelligences, each with their own unique processes and ways of thinking, to solve problems (Blythe & Gardner, 1990). The theory of multiple intelligences initially was developed for the field of psychology. In the 27 years since its release, the theory has been embraced by educators and experts in the field of education (Blythe & Gardner, 1990; Gardner, 1995; Moran, et al., 2006). Gardner (1995) believes that approaching education and instruction from the standpoint of multiple intelligences requires the development of educational plans based on individual ways of thinking as well as many ways of approaching learning to ensure every student is given the best opportunity to learn and grow.

Vygotsky defined the zone of proximal development as the area of problem solving that is between what has already been mastered by a student and the level that cannot be accomplished even with assistance (Cole et al., 1978). It is simply the area in which a student needs scaffolding, or support, in order to succeed. Vygotsky discovered that children are frequently at differing levels of development and, therefore, need support in differing amounts and areas. He pointed out that the need for support should not be seen as negative because “what a child can do with assistance today she will be able to do by herself tomorrow” (Cole et al., 1978, p. 87).

Differentiated instruction requires the modification for students of the content, process and product of instruction based on the unique qualities of each student (Tomlinson, 1995). This includes providing students with varying levels of support (Tomlinson & Allan, 2000). The theories of multiple intelligences and zone of proximal development align well with the concept
of modifying teaching of content, product, and process, which is promoted by differentiated instruction (Callahan, 2001; Cox, 2008; Heacox, 2002; Renzulli & Renzulli, 2010; Tomlinson, 2004).

**Research that supports differentiated instruction.** There has been some research done specifically on differentiated instruction. Studies on the effect of using differentiated instruction on individual students are limited. However, there have been several studies done on the implementation process throughout a school building or district, the strategies that are witnessed and the effect on the school or district overall. Generally, research has found that the impact on schools, from elementary to high school, has been positive.

One such study considered a single, struggling middle school and its passage through the process of implementing differentiated instruction to meet the needs of its diverse students (Tomlinson, 1995). The school began the journey with only some of the staff members recognizing the importance of differentiated instruction, with the rest following reluctantly. The initial hurdle the school discovered it needed to cross was that of defining differentiated instruction. It was discovered that the resistance by some educators partially stemmed from the many misconceptions about differentiated instruction. Some teachers felt that to implement differentiated instruction meant they would have to lower their standards and expectations of students. Others believed it would require them to give students choices to the point of handing over control of the classroom and curriculum. The school developed a common definition of differentiated instruction: “consistently using a variety of instructional approaches to modify content, process, and/or products in response to learning readiness and interest of academically diverse students” (Tomlinson, 1995, p. 80).
Throughout Tomlinson’s (1995) study barriers were discovered and overcome. The implementation became a long process in which educators and administrators discovered there were needs for multiple professional development sessions, support for teachers from experts outside of the school and a switch from teacher-centered classroom to student-centered classrooms. Teachers did report that gains were being made by their students, though no quantitative data were presented. Teachers described the engagement of the students and their interests in learning. One teacher reported that, in her differentiated classroom, students of all ability levels were challenged and were able to succeed. Tomlinson (1995) reported a positive overall impact on the students at this middle school.

Rock et al. (2008) conducted a study that introduced the dilemmas of two elementary teachers, one taught third grade and the other special education. The researchers used the plight of these teachers, along with a review of literature, to develop the REACH framework. The REACH acronym is an acronym used to “highlight each of the steps: (a) reflect on will and skill, (b) evaluate the curriculum, (c) analyze the learners, (d) craft research-based lessons, and (e) hone in on the data” (Rock et al., 2008, p. 34). Five years after implementing differentiated instruction, the percentage of students scoring proficient rose by 15.8% (Rock et al., 2008).

A study conducted at a California high school considered the implementation of differentiated instruction in literacy programs (Fisher et al., 2003). After four years of using differentiated instruction, the average student reading level increased from a grade level of 5.9 to 8.2.

Latz et al. (2009) conducted a study on teacher usage of differentiated instruction in the regular education, elementary classroom. At the beginning of the study it was discovered that, in 84% of classroom activities, no differentiation was taking place. The teachers at the school
participated in a mentoring program that helped them effectively use differentiated instruction. At the conclusion of the mentoring program, the majority of the elementary teachers felt a greater confidence in using differentiated instruction with their students and noted the benefits they believed their students were receiving due to the differentiation (Latz et al., 2009).

In an urban elementary school attempting to close the achievement gap, researchers, administrators and teachers chose to look at how a focus on enrichment and differentiation would work to close this gap (Beecher & Sweeny, 2008). These two areas were chosen because evidence had shown that students were more engaged when their interests were considered and when they were given choices in their learning (Beecher & Sweeny, 2008). At the start of the study the students in the school were in the 30th percentile in math, reading and writing. The achievement gap between students with high socioeconomic status and low socioeconomic status was 40%. The researchers concluded that the success of differentiated instruction was shown through increased test scores and students’ strengthened interest in and positive outlook on school (Beecher & Sweeny, 2008). The achievement gap between students with high and low SES was reduced to 15%.

**Differentiated Instruction for Gifted and Advanced Students**

Research has found that a common idea among regular education teachers is that gifted students have the ability and the motivation to differentiate instruction for themselves and that pull-out programs offer these students the support they require (Heacox, 2002, Manning et al., 2010). However, Tomlinson (2000) believes that these programs do not offer the continuous support that gifted students need in their learning. The absence of challenging material for gifted students can lead to the lack of development of problem-solving skills (Manning et al., 2010; Moon et al., 2003).
**Defining giftedness.** The definitions of a gifted student or of giftedness are almost as prevalent as those of differentiated instruction (Renzulli & Renzulli, 2010). The National Association for Gifted Children (NAGC) (2008) defines gifted students as:

those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports). (para. 4)

Gifted students tend to exhibit a strong intrinsic motivation, an ability to understand abstract ideas, and transferability of skills and knowledge from one context to another (Manning et al., 2010).

It is crucial for teachers to be aware that a gifted student may show abilities to learn quickly in only certain areas of the curriculum, not necessarily in all areas, and that each gifted student differs drastically in their interests and learning styles (Callahan, 2001; Heacox, 2002; Tomlinson, 2004). Gifted students may also display behaviors that could be misinterpreted as those that indicate disorders such as Attention Deficit/Hyperactivity Disorder (Callahan, 2001). Behaviors such as underachievement, impulsive actions, hyperactivity, lack of attention, and poor social skills, all often present with ADHD, can also indicate giftedness.

**Differentiated instruction strategies for gifted and advanced students.** Research on effectiveness of specific strategies of differentiated instruction is scarce. However, there are several readings available that offer suggestions of strategies that can be used. There are strategies that can be used with all learners, regardless of their level of readiness. There are also strategies available to use specifically with gifted students: content acceleration, curriculum
compacting, concept-based teaching, enrichment clusters, and personalization of content and curriculum (Callahan, 2001; Heacox, 2002; Manning et al., 2010; Renzulli & Renzulli, 2010; Tomlinson, 1995).

**Acceleration.** Content acceleration allows gifted students to work through the set curriculum in a particular subject at an faster pace than other students to avoid boredom caused by working with content already learned (Manning et al., 2010; Renzulli & Renzulli, 2010). Occasionally, with acceleration, a teacher may suggest that a student attend instruction in accelerated subjects at a higher grade level (Manning et al., 2010). For example, if a student in a third grade classroom is excelling in math, his or her classroom teacher may suggest he or she attend math instruction in the fourth grade classroom. In addition to subject-area acceleration, whole-grade acceleration can also be considered for gifted students who have mastered grade-level content in all subject areas (Renzulli & Renzulli, 2010).

**Curriculum compacting** Curriculum compacting can be done for students that can show, through assessment, that they have learned a portion of the content to be taught (Callahan, 2001; Manning et al., 2010). Curriculum compacting is the process of modifying the curriculum and eliminating previously learned material and replacing it with content and instruction that will be challenging to the student (Reis & Renzulli, 2010). Once the mastered content has been identified, the teacher and student can work together to create a project based on the student’s interests that allows the student to use higher-level thinking (Heacox, 2002; Renzulli & Renzulli, 2010). Curriculum compacting requires the use of flexible pacing and the use of abstract and higher-order thinking, which are essential to the intellectual and academic growth of gifted students (Callahan, 2001; Heacox, 2002).
**Concept-based teaching.** Also essential for gifted students is concept-based teaching (Tomlinson, 1995). Effective differentiation for gifted students “depend[s] on teaching by concept rather than covering a mass of material which may be long since mastered by an advanced learner” (Tomlinson, 1995, p. 84). As with curriculum compacting, concept-based teaching begins with assessment of a student’s current state of readiness. This assists in determining the concepts on which to focus the student’s instruction and activities. A student’s interests should also be considered, as they will often be spending a considerable amount of time on the topic (Tomlinson, 1995).

One method of concept-based teaching is independent studies (Powers, 2008). An independent study’s structure can vary slightly from teacher to teacher and student to student but the main components are identifying a problem, creating a research question, solving the problem by answering the research question, and creating an appropriate product.

**Enrichment clusters.** An additional strategy that classroom teachers can use with gifted students is enrichment clusters (Renzulli & Renzulli, 2010). Enrichment clusters are groups of students who have similar interests and who meet during certain, scheduled times during school. During these meetings students may discuss or research their area of interest, meet with an adult who is an expert in the area, or work to complete a product based on their interests. Renzulli and Renzulli (2010) believe that, in enrichment clusters, all work should be focused on the creation of a product or service. This is to ensure that the work within the clusters has real-life applicability.

**Personalization.** Finally, the strategy of personalizing content and curriculum for gifted students is encouraged by researchers (Callahan, 2001; Heacox, 2002; Renzulli & Renzulli, 2010). While the importance of personalization is recognized for all students in a differentiated
classroom, the process of personalization can be slightly different for gifted learners in gifted pull-out programs. Renzulli and Renzulli (2010) noted that, in pull-out programs for gifted students the student assumed an active, rather than passive, role in their learning. To do this in a regular education classroom, especially one that uses differentiated instruction, would require few modifications for the gifted learner. When creating a personalized plan for gifted students, classroom teachers should attempt to involve these students directly in the planning (Heacox, 2002; Renzulli & Renzulli, 2010). Students are able to take some responsibility in deciding concepts to be studied, setting goals, and planning both the process and product of instruction (Callahan, 2001; Heacox, 2002; Renzulli & Renzulli, 2010).

Personal goal-setting has been found to be especially effective in motivating gifted students (Morisano & Shore, 2010). Allowing gifted students to set their own goals gives them the opportunity to explore their own interests. However, it is important that students have the guidance of the teacher throughout the process to ensure the goals are realistic, yet still challenging. Teachers can also assist students in breaking down large goals into smaller steps and formulating strategies to meet the goals.

**Summary**

This review of literature considered the definition of differentiated instruction, pre-assessment of students to facilitate differentiation, areas in which to differentiate, support for differentiated instruction through theories and research, and differentiation for gifted students. For the most part, each of these five areas was considered and discussed in isolation. The gap in the research lies in tying together the overall idea of differentiated instruction and the strategies that are considered appropriate for gifted elementary students.
CHAPTER III: METHODS AND PROCEDURES

This study focused on one gifted pull-out program in an attempt to answer two research questions: 1) What strategies do educators of gifted elementary students use in gifted pull-out programs? 2) What do teachers and students believe is necessary to support gifted students’ learning in a regular education classroom?

This chapter explains the participants involved in the study, the research design, and the method of data collection and analysis.

The FIND Classroom

The primary method of data collection was observation, which was conducted in the third grade gifted pull-out program called FIND (Furthering Interests and Nurturing Development), taught by Mrs. Vashlen.²

At approximately 9:10 am every Tuesday morning, Mrs. Vashlen left her classroom to walk to the front of Carter Elementary, where she waited for her students. The students who participated in FIND were bussed from the four upper elementary schools in the school district to Carter Elementary, the fifth upper elementary school. The students would travel to their home schools, as on any other day, check in with their classroom teachers, then board a bus waiting at each school to take them to Carter Elementary. Each bus arrived at different times, from 9:10 to 9:30 am.

Mrs. Vashlen often would play games in the entryway of the school with the students who arrived first while waiting for the rest of the students. In one such game, Mrs. Vashlen read a scenario from “Stories with Holes” to the students and they asked questions that could be answered with a “yes” or “no” until they were able to determine why the scenario happened. Mrs. Vashlen also used “Intriguing Questions,” which asked students to ponder questions that

² All names of participants and schools are pseudonyms.
typically began with “Would you rather…” or “What would you do if…” (Field Notes 1; Field Notes 2; Field Notes 5).

After all the students were dropped off, Mrs. Vashlen would quietly lead her students to the classroom. The door entered into the back of the classroom. The students walked to the left of the doorway to hang their coats and book bags on hooks on the wall. The students would then choose their seats for the day. Mrs. Vashlen did not assign seats and the seating arrangement changed often. Sometimes desks were in pairs, sometimes in groups of four. For most of the duration of the observations the desks were placed in a large, inward-facing square.

At the front of the room was an open space on the floor where the whole group could meet at the beginning or end of the day to discuss goals for the day or what had been accomplished. Next to the open space, nestled in the classroom library, was a small round table where Mrs. Vashlen had individual conferences with students. On the wall behind the conference table was a bulletin board with the levels of Bloom’s Taxonomy and key words for each level (See Figure 1 and Figure 2).

![Figure 1: Bloom’s Taxonomy Bulletin Board](image1)

![Figure 2: Key Words of Bloom’s Taxonomy](image2)
Bloom’s Taxonomy was used by Mrs. Vashlen as a way to encourage her gifted students to think on higher levels.

Behind the classroom library and conference area were four computers, set in a row, for use by the students. The computers were used frequently by the students to conduct research on topics of interest to them. Other than at the beginning or end of the day, when students were together for the check-in meeting with Mrs. Vashlen, the students were typically working independently on different tasks for their own projects. At any given time some students would be researching a topic on the computer, reading and taking notes, creating a product which could range from a tri-fold board to a skit that would be written, acted out and recorded, or even offering assistance to other students (Field Notes 1; Field Notes 2).

Students spent most of their time at Carter Elementary working on independent studies. As with many independent studies, each student determined a topic he or she was interested in, developed a guiding question about the topic, researched the topic, and showed what was learned through a product of his or her choice (Powers, 2008). Mrs. Vashlen provided each of her students with an independent studies packet that guided the students through the entire process of the independent study.

Part of the packet was a “Project Planner” (Appendix A). The Project Planner helped guide the students through the process of the independent study and included all the dates the students would be in the FIND classroom. The planner had three columns. The first, filled out by Mrs. Vashlen, indicated where the students should ideally be at in the independent study process on any given date. In the second, students noted what they had accomplished by the end of each FIND session. Students recorded what tasks they needed to complete before and during the next FIND session in the third column.
Mrs. Vashlen used two pre-assessments, an “I’ve Been Wondering…” sheet and a “Topic Exploration” sheet (Appendix B), to determine the interests of the students. The “I’ve Been Wondering…” sheet, completed at the beginning of the school year, asked the students to write any topics they were interested in or had questions about. The sheet had eight large question mark graphics spaced around the page. Only the outlines of the question marks were given, leaving space inside each one for students to write a topic. Just before beginning the independent study, Mrs. Vashlen had the students review the topics and questions they wrote. The students decided on three to four topics of great interest and used these to complete the “Topic Exploration” sheet, where they wrote questions for each level of Bloom’s Taxonomy (knowledge, comprehension, application, analysis, synthesis, and evaluation) for each topic.

Also included throughout the packet were conference pages (Appendix C). Throughout the process of the independent study, Mrs. Vashlen had eight planned conferences, each with a pre-determined topic, such as choosing the topic and choosing the products. The students would bring the conference pages to each conference and, if she believed they had accomplished the task sufficiently and were ready to move on, Mrs. Vashlen would sign the page and have the student sign it as well.

Participants

The third grade FIND classroom taught by Mrs. Vashlen was determined to be the most appropriate observation site due to the study’s focus on differentiated instruction for elementary gifted students. Mrs. Vashlen was observed using strategies of differentiated instruction with her students during a preliminary observation. Furthermore, the full-day pull-out program at Carter Elementary allowed for prolonged observations of one group of students.
**Mrs. Vashlen.** Mrs. Vashlen began her teaching career as a special education teacher in Washington, D.C. Before she and her family moved to Ohio, Mrs. Vashlen’s oldest son was identified as gifted. This encouraged Mrs. Vashlen to obtain her Master’s degree in gifted education. After moving to Ohio and receiving her certification to teach in the state, Mrs. Vashlen began teaching at Carter Elementary. She has been teaching in the third grade FIND classroom for seven years.

After the FIND classroom was determined to be the most appropriate classroom-observation site, Mrs. Vashlen was told the specifics of the study and what an agreement to participate would entail (once weekly, full-day observations of her classroom). Mrs. Vashlen was given a consent form (Appendix D) to read which was signed to signify her willingness to participate in the study.

**Students.** Mrs. Vashlen had a total of 30 third grade students in the FIND program. One group of 17 students met every Wednesday. These students’ home classrooms were also at Carter Elementary. The other 13 students met every Tuesday and came from the other four upper elementary schools in the district. The Tuesday session of FIND was observed. Artifacts were collected from both sets of students.

The students in the FIND classroom were all eight or nine years old, with the exception of one student who was seven. She had been whole-grade accelerated and went from first grade at the end of the previous school year directly to third grade at the beginning of the next school year.

All of the students were in their first year of the gifted program. The school district used standardized testing with second grade students to identify gifted students. Since the students
were not identified until second grade, the district’s gifted program did not begin until third grade.

The entire group of 13 students who attended the Tuesday session of FIND were observed. However, three particular students will be featured in vignettes highlighting their independent studies: Jacob, Carly, and Maggie.

Jacob enjoyed working on the computers and it appeared that technology was an area of strength for him. One student was heard saying, “Jacob seems to be the tech expert so you could ask him about the computer” (Field Notes 2). Jacob appeared to be highly gifted. He was self-motivated and was always working towards the daily goals for his independent study.

Carly had excellent social skills and seemed to be comfortable talking to peers and adults. Carly sought the approval of Mrs. Vashlen for every step of the independent study and for all of her decisions. She often gave the impression that she was unsure of herself and of her skills and abilities.

Maggie was independent and was often seen working alone. She was not withdrawn, however, and did interact with the class during group activities. She also seemed to enjoy spending time with her peers during non-work times such as lunch or at the end of the school day. Maggie often took the initiative to make her own decisions and solve her own problems. Mrs. Vashlen was observed praising Maggie for these skills during one classroom visit. Mrs. Vashlen noticed that Maggie was rewriting her bibliography because she had lost her original one. Mrs. Vashlen told her, “That’s’ good Maggie. Thank you for just solving it” (Field Notes 6). Though Maggie was confident in her abilities she did not hesitate to seek advice when she felt she could benefit from it.
**Regular education teachers.** As a way to gain multiple perspectives, four of the FIND students’ regular education teachers agreed to participate in the study by answering an open-ended questionnaire. These teachers helped the researcher to gain insights on strategies that may be used with gifted students in their regular classrooms as well as the insights and struggles of the regular education teachers.

Each of the questionnaire participants were contacted through email and the goals of the study were explained in the initial contact. Once they showed interest in being a part of the study, each teacher was sent a consent form (Appendix D) to further explain the goals of the study and their role in it, should they choose to participate. After signing a consent form, signifying an agreement to participate, the teacher received the questionnaire. Since there were never any face-to-face meetings with the regular education teachers, no background information was collected on them.

**Research Methods and Procedures**

**Research design.** Defining aspects of qualitative research are the description, interpretation, and retelling of personal stories, accounts and situations (Glesne, 1999; Lichtman, 2006). Qualitative research focuses on data as part of its naturally occurring setting and situations. It does not, as quantitative research often does, attempt to isolate pieces of data and create experiments (Lichtman, 2006). Qualitative studies often consider data collected through multiple methods, such as observations, artifacts, interviews and questionnaires, all of which were used in this study (Lichtman, 2006).

This study was conducted using the specific qualitative research approach of phenomenology. The purpose of any phenomenological study is to understand the experiences of others who have experienced a phenomenon (Lichtman, 2006). The phenomenon of
differentiated instruction tailored to meet the needs of gifted students was the focus of this research study. Glesne (1999) noted that phenomenology attempts to describe the experiences of the people involved in a phenomenon. The observations of the FIND classroom will be described as part of the phenomenon of differentiated instruction for gifted students at Carter Elementary.

Due to the personalization of the data in a phenomenological study, the role the researcher chose was important. Lichtman (2006) believes the researcher is the most important instrument of data collection and analysis. She is the main interpreter of data. Keeping this in mind, my role in this study was that of a participant observer. Participant observation allows a researcher to become a part of the phenomenon she is studying, with the goal being the understanding of a setting and its participants (Glesne, 1999). Due to the close relation to the goals of phenomenology, the role of participant observation for this study was appropriate.

Glesne (1999) believes there is a continuum of roles that can be held by a participant observer. At one end of the continuum lies the role of observer; at the other end, the role of participant. In addition, a researcher will often find that she is at different points along the continuum at different points in the study. My role began as that of an observer, sitting alone at a table in the back of the classroom. At the beginning of the study, I was greeted by students at the start of the day, then mostly ignored as I observed. By the conclusion of the data collection, my role had become that of a participant-observer. I frequently interacted with the participants of the study and began to be accepted as an integral part of the FIND classroom, interacting with and assisting both the teacher and the students in their independent studies.

Data collection and instrumentation. Data were gathered for this study through observations, one structured interview, classroom artifacts, and open-ended questionnaires. The
use of multiple methods allowed for triangulation, which compares data and improves the
reliability of the study (Glesne, 1999).

The main source of data was obtained in Mrs. Vashlen’s FIND classroom. Eight visits
were made to the FIND classroom, each observing a full day. An observation protocol was used
to make observation notes (Appendix E). This protocol had sections for timing activities,
labeling interactions (teacher-to-class, teacher-to-student, student-to-student, etc.), activity
description, strategies used, and conversations and other specific interactions, as well as for the
researcher’s thoughts and interpretations of the interactions, activities and strategies.
Observations of phenomena in their natural settings allowed the researcher to understand
behaviors along with natural interactions among groups (Lichtman, 2006). These observations
were conducted for the entire school day, one day per week for eight weeks.

During the observations, informal conversations occurred between the researcher and
Mrs. Vashlen to aid in the understanding of activities and interactions. An interview was
conducted with Mrs. Vashlen between the fifth and sixth observations (Appendix F). This
timeframe was chosen so questions could be asked about what had already been observed and
topics, ideas, methods and strategies discussed in the interview could be further observed.
Interviewing was suitable as it fit closely with the phenomenological approach to the study.
According to Seidman (2006) interviewing is a method in which a researcher can not only learn
about the experiences of others but also learn about the meaning they derive from those
experiences.

Items such as lesson plans, student work, teacher resources, forms and photographs were
also collected in Mrs. Vashlen’s classroom. Glesne (1999) believes that the collection of
artifacts contributes to a researcher’s trustworthiness, and also aides in understanding
observations, interviews and other data. Furthermore, the collection of artifacts could lead a researcher in a direction of study not yet considered. Though only one of Mrs. Vashlen’s two sections of FIND was observed, classroom artifacts were collected from both sections in order to gain more perspective.

One such artifact was a student exit slip, collected during the fourth observation (Appendix G). The students were asked to name their favorite activity in the FIND classroom, their favorite activity in their home classroom and an activity they did in the FIND classroom that they would like to do in their home classroom. They were also asked to briefly explain each answer. The exit slip was passed out to the students by Mrs. Vashlen towards the end of the day. The students were told they were not required to put their name on the slip and that it was to help both Mrs. Vashlen and the researcher understand what gifted students liked to do. The students were asked to turn the paper over on their desks after they completed it and raise their hand so Mrs. Vashlen could collect it, after which they were allowed to read until the entire class had completed the paper.

The final instruments used in the study were open-ended questionnaires (Appendix H). The four regular education teachers were given the same questionnaire. After agreeing to participate in the study, each teacher was sent a questionnaire through email. The teachers were encouraged to ask clarifying questions, be thorough and include any materials that may help explain their answers. The teachers were also given the opportunity to meet with the researcher, to ask questions, explain answers or show and explain materials. None of the teachers took this opportunity and the four questionnaires were returned by email. Seidman (2006) believes that open-ended questionnaires offer parameters that allow for the researcher to obtain relevant data while still allowing freedom for the participant to expand the information. The questionnaires
asked the participating teachers to explain aspects of their classroom and instructional techniques in a way that did not limit the type of information they were able to give.

**Data analysis.** Data was collected through the observation protocol, student and classroom artifacts, an interview with Mrs. Vashlen and responses to an open-ended questionnaire completed by the regular education teachers.

Each data source was first read individually, with the researcher looking for the main ideas in each source. The transcript of the interview was read first followed by the regular education teachers’ responses to the questionnaires. Then the observation protocols and notes were read. Finally, the student and classroom artifacts, such as the student exit slip and the independent study packet, were read.

Each source was then read a second time, in the same order, this time with notes being taken on the main ideas or general themes. Some of the general themes that initially were noted were the need to challenge the gifted students, pre-assessment, personalization of the curriculum and goal-setting. According to Glesne (1999), the main ideas that emerge from the data become the codes, or assertions.

During the third reading of each source, the data was color coded, with a color being assigned to each assertion or theme. Erikson (1986) explained the process of finding evidentiary warrants to support assertions. Warrants are specific incidences or pieces of data that are able to support an assertion. The warrants in each source that supported a given assertion were highlighted with the assigned colors.

At this point the researcher struggled with the assertions. While each source individually supported some themes, key linkages were difficult to find. Key linkages are warrants that
connect all data sources to the same assertion (Erikson, 1986). Essentially, the assertions were not supported throughout all data sources.

After several more readings of each source it was discovered that there were only two main assertions to the study. These assertions were the independent study and challenging work. The original assertions of pre-assessment and goal-setting, along with conferencing, were supporting themes of the independent study assertion. Within the assertion of challenging work were the views and ideas of the participants of the study. Each participant or group of participants (Mrs. Vashlen, the FIND students, and the regular education teachers) offered a different perspective on providing challenging work to gifted students.

Following the discovery of the assertions and supporting themes, the data sources were re-coded, again with a color being assigned to each assertion and each supporting theme. Key linkages were found in all data sources connecting them to each other and to the assertions.

**Summary**

This study was done using the qualitative research method of phenomenology and considered the following questions: 1) What strategies do educators of gifted elementary students use in gifted pull-out programs? 2) What do teachers and students believe is necessary to support gifted students’ learning in a regular education classroom?

To gather data for this study, eight visits were made to a gifted pull-out program for third grade gifted students called FIND. During the day-long observations in this classroom an observation protocol was used to organize the information that was obtained. Mrs. Vashlen, the main participant of this study and the teacher of the third grade FIND program, was utilized as a resource for understanding the activities and interactions observed in the classroom. She was also the source for many of the classroom artifacts that were collected.
In addition to the observations, conversations, and classroom artifacts, the main participant was interviewed. Furthermore, four regular education teachers, who had at least one of the FIND students in their classrooms, answered open-ended questions on a questionnaire.

The observation notes, interview and questionnaires were then analyzed and coded to find themes or assertions across the individual methods of data collection. The coding from each method was also compiled to find assertions common across all participants. The assertions were independent studies and challenging work. The independent studies assertion was supported by the themes of pre-assessment, conferencing and goal-setting.
CHAPTER IV: RESULTS

The purpose of this study was to ascertain how to differentiate instruction for elementary gifted students in the regular education classroom. To determine how to support gifted students in the regular education classroom, this qualitative, phenomenological study considered the strategies used by Mrs. Vashlen, a third grade teacher for the gifted pull-out program called FIND (Furthering Interests and Nurturing Development). The results from data collected during observations of the classroom and an interview with Mrs. Vashlen were combined with the results of artifacts collected from the FIND classroom and open-ended questionnaires given to four regular education teachers.

The results will be presented by assertions, or themes. The two main assertions of the study were the use of the independent study and challenging work. The data collected from the observations, artifacts and interview showed the importance of the independent study to the FIND classroom setting. The independent study also highlighted the strategies used by Mrs. Vashlen in the FIND program. Pre-assessment, conferencing, and goal-setting are themes that support the independent studies. Data collected from all sources showed that teachers and students believed gifted students needed to be provided with challenging work. The results supporting the assertion of challenging work are organized in a way that demonstrates the views of the teachers and students who participated in the study. The perspectives of Mrs. Vashlen, the FIND students and the regular education teachers on the necessity of providing gifted students with challenging work are described.

Independent Studies

The 13 students in Mrs. Vashlen’s Tuesday class and the 17 students in the Wednesday session of FIND, which was not observed, were given an exit slip (Appendix G) to determine
what activities they enjoyed in both their FIND classroom and their home classrooms. They also
named an activity they did in FIND that they would like to do in their home classroom.
Students overwhelmingly preferred (63% of 30 students), the independent study (See Figure 3).

The invention project was an in-class assignment in which the students chose or were
assigned an invention to research. Each student gave a PowerPoint presentation to the class on
the invention and the inventor. Seventeen percent of the students showed that the invention
project was their favorite activity. Mrs. Vashlen read portions of the book *Chasing Vermeer*
aloud over time while students used their own notebooks to make predictions, decipher codes
from the book and attempt to solve the mystery presented by the author. Thirteen percent of the
students named “Chasing Vermeer” as their favorite FIND activity. Seven percent named
another activity.

Throughout the eight weeks of observations done in the FIND classroom, most of the
students’ time in FIND was devoted to the independent study. Observations, artifacts and the
interview showed that the independent study done in the third grade FIND classroom followed
the basic structure of most independent studies. The procedure was: 1) decide on a topic that interests you, 2) research the topic, 3) create what Mrs. Vashlen called a “bigger question” about the topic that you want to answer, 4) do more research, 5) answer your question, 6) present what you learned through a product of your choice (Powers, 2008). In the FIND program, students were asked to complete two products of their choice to present both to their classmates in the FIND classroom and to parents during the after-school independent study showcase. Mrs. Vashlen informed that students that their choices in their products was their opportunity “to use your strengths and skills” (Field Notes 3).

Mrs. Vashlen provided students with a packet to guide them through the independent study. The packets had pages placed in an order that guided the students through the entire independent studies process, from brainstorming and choosing a topic to presenting the completed products. At the beginning of the packet was an image of the flow of the independent study process. The bulletin board in Figure 4 was adapted from the independent study process page in the packet. The bulletin board was in the classroom library. Each student had a sticker with their name on it that was moved along the process on the bulletin board as the students completed each step. The rest of the pages in the packet were arranged in an order that followed the process in the image.
Also included in the packet were informational pages on how to write a bibliography and one that gave tips on how to give a presentation.

During the interview, Mrs. Vashlen noted that independent studies were successful with the gifted students in FIND because these students “will always be …curious and want to learn something” and the independent study project gave them the tools they need to “feed themselves” information and knowledge. The student exit slip showed that students preferred this project due to its focus on topics of interest to the students, the long period of time that was spent on the project, and the presentation of the results in the format of the students’ choices.

Mrs. Vashlen noted in the interview that the independent studies allowed her gifted students to “work at the higher order of Bloom’s [Taxonomy] more…the analyzing, synthesizing, evaluating”. This enabled her help students to focus on “learning to learn” rather than remote skills and facts. The goal of the independent study was not to achieve a high grade, but rather to motivate students to pursue their interests and to overcome a challenge. In fact, students who participated in FIND did not receive any grades, including for the independent studies that sometimes took months to complete (Field Notes 6).
After analyzing the data from observations of the FIND classroom, student artifacts, and the interview with Mrs. Vashlen, and looking at the products of the independent studies, pre-assessment, conferencing and goal-setting were noted as ways to increase differentiated instruction in the classroom while using the independent study.

**Pre-assessment.** Through observations, collection of artifacts, and the interview with Mrs. Vashlen, it was discovered that many forms of pre-assessment, most of which were informal and formative, were used to guide students through their independent studies. Several of the pages in the independent studies packet, such as the “I’ve Been Wondering…” sheets and the “Topic Exploration” sheet (Appendix B) and the steps of the process allowed Mrs. Vashlen to pre-assess students’ interests. The packets also helped both Mrs. Vashlen and the students know how they were moving through the process of their independent studies.

At the beginning of the school year, Mrs. Vashlen asked her students to complete the pre-assessment “I’ve Been Wondering…” sheet, on which they wrote topics or ideas about which they were curious and interested. Some of these topics included the human heart, San Diego, Roman Gods and Goddesses, giraffes, butterflies, archeology and nail polish, the first three of which will be presented in vignettes. Before students began their independent study projects, Mrs. Vashlen had them reconsider those topics and ideas through the “Topic Exploration” sheets.

After returning students’ “I’ve Been Wondering…” sheets, Mrs. Vashlen directed the students to the page in their independent study packets titled “Select a Topic” (Appendix B). After reading over the page with the students, Mrs. Vashlen gave them a short period of time to discuss the topics they had written on the “I’ve Been Wondering…” sheets with their peers. Mrs. Vashlen encouraged the students to talk about which topics they were still interested in,
why they found them interesting, and why some topics no longer interested them. Students were then asked to decide on three to four topics that were of particular interest to them (Field Notes 1).

After the students had chosen their topics, they completed another pre-assessment called the “Topic Exploration” sheet (Appendix B). During this initial topic exploration, students were asked to create questions they had about each topic they chose for each level of Bloom’s Taxonomy. Mrs. Vashlen circulated around the room while the students were working. She checked in with each student, reminding several of key words in Bloom’s Taxonomy (Field Notes 1; Field Notes 2).

One student, who was exploring the topic of nail polish, seemed to be struggling to understand Bloom’s Taxonomy in general. Mrs. Vashlen had her reference the bulletin board in the class library and consider each level individually. With Mrs. Vashlen’s guidance the student chose one key word from each level and created a question about her topic using the word. For example, in the synthesize level the student chose the word “design”. Her question was then “How could they design nail polish to make it safer?” (Field Notes 1). While the student may not have been actually working in the synthesis level of thinking, she was using the key words. In a later conversation, Mrs. Vashlen noted that she was not necessarily concerned that the students completely understood the levels of Bloom’s Taxonomy but more that they were aware of it. The awareness of both the taxonomy and the differing levels of thinking, Mrs. Vashlen believed was enough for her third grade students (Field Notes 6).

At one point, when the students seemed to be struggling to determine questions for each level, Mrs. Vashlen reminded them that “It’s the thinking that’s going on that’s the important part” (Field Notes 1). Mrs. Vashlen allowed the students to leave one level blank for each topic.
if they were unable to create a question. She also allowed them to create more than one
questions for any given level.

Mrs. Vashlen allowed students to work on this pre-assessment over two class days,
giving them more than an hour each time (Field Notes 1; Field Notes 2). Mrs. Vashlen
circulated around the room while the students were working. Students talked among themselves
at their seats. The students discussed their questions with their peers and asked questions of their
peers. A student developing questions for the topic of squirrels was observed talking with a
student working on questions for giraffes. The second student wondered where giraffes lived
and asked the other student what level that question should go with. The first student decided
that could also be a good question for squirrels and together, through discussion, the students
decided the questions should go in the knowledge level (Field Notes 2).

Conferencing. After students completed the “Topic Exploration” sheets, Mrs. Vashlen
began holding individual conferences with the students (Field Notes 2). Observation notes
showed that during the first conference Mrs. Vashlen discussed with each student the topics they
had chosen for the “Topic Exploration” sheet. Through discussion, Mrs. Vashlen and the student
were able to narrow to one topic of great interest for the student to conduct research on (Field
Notes 3). In this way, Mrs. Vashlen was provided with an idea of each of her students’ areas of
interest.

Mrs. Vashlen continued to hold individual conferences with students throughout the time
of the observations. During the conferences, Mrs. Vashlen talked individually with the student,
normally for no more than three or four minutes. While the researcher was never able to
participate in individual conferences, as they were meant to be private conversations between
Mrs. Vashlen and each student, the collection of student artifacts, such as the Project Planner
(Appendix A) and the conference pages (Appendix C) and conversations with both students and Mrs. Vashlen showed that conferences either centered on the pre-determined topics for each conference or a specific question or problem a student was having.

Based on both the Project Planner and the conference pages, each student was to have eight conferences with pre-determined topics throughout the independent study with Mrs. Vashlen though it was observed that students often had additional conferences when needed. The eight planned conferences involved selecting a topic, surveying the topic, choosing the bigger question, collecting data, determining the answer to the bigger question, choosing the products, presentations and a status check.

For each planned conference, the students were given conference sheets (Appendix C) in the independent studies packets. The conference pages were dispersed through the packet, based on where in the independent study process they should occur. Most of the pages had one to three statements that told the students what they needed to have accomplished in order to attend a conference with Mrs. Vashlen. These statements also gave Mrs. Vashlen and the students an outline for the conference discussion. The conference sheets for conferences one, two and eight required the student to write something in response to the statements. For example, for conference one the students had to write what topic they had decided on and for conference eight students had to write about what they had already accomplished and what work still needed to be done.

Conferences were held at a round table in the classroom library. Mrs. Vashlen planned to meet with each student at least once every two weeks, though it was observed that conferences were held more frequently with most of the FIND students (Field Notes 1-8). Several of the FIND students requested extra conferences with Mrs. Vashlen when they were having difficulty
finding information about their chosen topic. Mrs. Vashlen would meet with the students, write down exactly what they were having difficulty with, and suggest search terms to use in a database on the Internet. One student, Jacob, did his independent study on the human heart. He met with Mrs. Vashlen because he wanted to see how the heart actually pumped blood but had been unable to find the information he wanted in an understandable format. Mrs. Vashlen suggested he search “video of human heart pumping”. At the next FIND session, Mrs. Vashlen also brought Jacob a book she found at the community library that had photographs of a heart pumping (Field Notes 4; Field Notes 5).

Another student approached Mrs. Vashlen and said “I’m having trouble writing notes” (Field Notes 6). Mrs. Vashlen met with the student and worked with her to write notes for one source and then had her take notes on her own for the other two sources. The student was observed talking with another student while working on her notes after the conference with Mrs. Vashlen, saying “I have to read some then not look at the papers and remember what it said and write it” (Field Notes 6).

Students also were able to list their names on the board when they were ready to have the next conference with Mrs. Vashlen. For example, if a student was ready for conference three, in which they selected their bigger question, they could add their name to the list on the board of other students ready to conference with Mrs. Vashlen. After the conference, students then erased their name from the list (Field Notes 3; Field Notes 6; Field Notes 7).

**Goal setting.** Observations, student artifacts, and the interview with Mrs. Vashlen showed that FIND students set goals throughout their independent studies. These goals were both short-term, such as setting the goal to have two sources from which to begin note-taking by the next FIND session the following week (Field Notes 4), and long-term. The goals were set by
the students themselves and collaboratively during conferences with Mrs. Vashlen. Mrs. Vashlen purposely integrated goal-setting into the independent study. She stated during the interview that goal-setting was an important skill for her students to learn because “it’s important for them to know that they have control of their life and they can change things” and goal-setting can enable them to do that.

As part of the independent studies packet, students were given a “Project Planner,” (Appendix A) which included all the dates the students would be in the classroom for the extent of the independent studies. Due to school closures caused by weather, the students were later given a modified project planner. For each date, there were three columns labeled “Goals for Today,” “What I Accomplished,” and “What I Still Need to Do”. In the first column, Mrs. Vashlen had guidelines for where the students should be in the independent study process and the conferences they should be having with Mrs. Vashlen, though these were tentative dates, as students were often at different points in the process. The final two columns were filled in by the students at the end of each FIND session in order for them to set goals for themselves for the week between sessions and for the next session (Field Notes 1-8).

At the end of each FIND session, Mrs. Vashlen reminded some students of the goals they had set during conferences. Based on observations, the goals students were reminded of were typically short-term goals. Mrs. Vashlen was observed reminding one student that “your goal is to read through those two books” before the FIND class the following week (Field Notes 3). On another occasion, Mrs. Vashlen reminded another student at the beginning of the FIND session that her goal for that day’s class was “to find at least one article and print it off” (Field Notes 3).

Mrs. Vashlen stated in a conversation during one of the observations of the FIND classroom the she had the students set goals both to teach students the important skill of goal-
setting and “to guide [myself and the students] in determining on what they should be working” (Field Notes 4).

**Independent study vignettes.** The following vignettes describe different students’ independent studies that were observed. These vignettes allow for an overall, though brief, look at individual independent study projects. The previous sections allow for an understanding of pieces of the independent study process that were observed. The following examples of individual independent studies allow for an understanding of the independent study as a whole.

**Jacob: The heart.** One student in the FIND classroom, Jacob, was interested in learning about the heart. In the initial exploration of the broad topic, Jacob used Google and searched the term “human heart”. In doing this, he discovered he was interested in learning how the human heart worked, or how it was able to pump blood. He developed his guiding question, which Mrs. Vashlen referred to as the bigger question: How does the human heart work?

During observations, Jacob was seen conducting research on the computer as well as in the classroom library. Jacob continued to use general search engines, such as Google, to find information about the human heart. He used the phrases “human heart,” “how the human heart works,” and “human heart pumping blood” (Field Notes 3; Field Notes 4). In a conversation with Jacob, it was found that he discovered in the very early stages of topic exploration that, in order to find information he wanted, he had to include the term “human heart” in the phrases he used to search the internet with (Field Notes 4).

Mrs. Vashlen assisted Jacob in finding books that would help him answer his bigger question. Mrs. Vashlen directed Jacob to the sections of the class library that contained nonfiction books. In her spare time she also pulled books from the class library that she recalled had information that would be helpful to Jacob in answering his question (Field Notes 3; Field
Notes 4). When Jacob had exhausted the resources within the classroom, he took trips to the school’s library and enlisted the help of the librarian (Field Notes 4). In addition, Mrs. Vashlen also went to the public library and checked out books for Jacob that had photographs of a human heart when he was having trouble understanding how the heart actually pumped blood (Field Notes 5).

When Jacob had gathered what he felt was enough information, he began reading it all more thoroughly, taking notes as he read. Jacob had chosen the traditional method of note-taking, using lined paper to write important information in his own words. At one point, Jacob decided he did not have a good enough grasp of how the heart worked. After a short conference with Mrs. Vashlen, where he asked what he could do, he searched the Internet for a video of a heart pumping using the phrase “video of human heart pumping”. Jacob was able to find a simulation video of what a heart looked like on the inside while it was pumping blood. At this point Jacob decided one of the products he would work on was a model of the heart and how it pumped (Field Notes 5). He had previously determined that his other product would be a PowerPoint presentation, and, after finding the simulation video, decided to include the video in his PowerPoint.

Jacob’s model was created using plastic tubes, and pumps that resembled aspirators. When the pump was squeezed in a container of water, the water could be observed moving through the tubes, as it would through the heart. Jacob was also able to explain to the person using the model that the heart had four chambers through which the blood pumped in a similar fashion. After demonstrating with the model, Jacob gave a presentation using the PowerPoint he had created, further explaining how the heart worked and showing the simulation video.
Carly: Exciting attractions in San Diego. At the start of her independent study project Carly was interested in learning about archeology. Carly struggled from the beginning because she had difficulty finding information about archeology that she could read and understand well enough to develop a bigger question. Mrs. Vashlen attempted to assist Carly by going to the public library to find books on the topic but many books were still above Carly’s independent reading level (Field Notes 4).

In a conversation observed between Carly and Mrs. Vashlen, Carly excitedly told Mrs. Vashlen her aunt and uncle were visiting from San Diego. Carly then stated all of the reasons she would like to go to San Diego to visit her aunt and uncle, including the zoo and Sea World. Mrs. Vashlen noted aloud how interested Carly seemed to be in San Diego. Through two or three minutes of conversation, Mrs. Vashlen guided Carly to the idea of researching San Diego for her independent study (Field Notes 5).

Carly quickly decided she would like to focus on the attractions in San Diego. Mrs. Vashlen also suggested she interview her aunt and uncle. Mrs. Vashlen worked with Carly to develop interview questions through extra conferences.

Carly chose to use the notecard method of note-taking. Carly used separate four by six inch notes cards for each attraction with a heading at the top of each card indicating the attraction the notes were on. In order to give credit to the correct source, Mrs. Vashlen suggested Carly number her sources and write the number beside the notes on the card indicating which source the information came from.

Carly had difficulty taking notes, often writing exactly what her sources said. Mrs. Vashlen informed Carly that the goal of note-taking was to “write down what you’ve learned using your own words” (Field Notes 5). When this still did not give her the clarification she
needed, Carly requested an extra conference, stating that she was “having trouble writing notes” (Field Notes 6). Mrs. Vashlen guided Carly through taking notes on one source and had Carly complete the other two sources on her own.

Carly chose to create a tri-fold board and a brochure for her products. She devoted sections on both the tri-fold board and in the brochures to colorful displays of the San Diego Zoo, Sea World, Six Flags, Disneyland and Safari Park. Each section had information about each attraction, such as when it opened and the average number of visitors per year and what was available, a map to show where it was located in San Diego and pictures of the attraction.

**Maggie: Roman gods and goddesses.** Maggie had read the series of seven books by Rick Riordan called *Percy Jackson and the Olympians*. This series is about a boy who discovers he is a demi-god, or the child of a god and a mortal. The books are based on the Greek gods, and Maggie decided she would like to learn more about the Roman gods. After discovering a list of the Roman gods and goddesses during her initial research for the “Topic Exploration” sheet, Maggie decided to focus on three specific gods: Jupiter, the king of the gods; Juno, the queen of the gods; and Mars, the god of war (Field Notes 1). In continuing her research after her first conference with Mrs. Vashlen, when her general topic was approved, Maggie noticed many websites that gave information about the Roman gods and goddesses began by describing the personalities of each (Field Notes 2). Based on this, the bigger question Maggie wanted to answer was: What were the personalities of Jupiter, Juno and Mars? (Field Notes 2).

After the conference with Mrs. Vashlen about choosing the bigger question, Maggie also chose an additional question: How would their personalities make them act together? (Field Notes 4). During the interview, Mrs. Vashlen explained why she required Maggie to create the second bigger question. She first pointed out that “I don’t have a baseline of this is where I want
my kids to get to”. Each child is different and can achieve different levels in different things, she explained. For another student, Mrs. Vashlen may have praised that bigger question “but for her…we went back and worked three or four times and then we got something that was appropriate for her level of thinking”.

As with the other students in the FIND classroom, Maggie was observed researching on the computers, using the Internet, and using books from the classroom and school libraries. Maggie chose to take her notes using a web format. She used a web for each of the gods she had chosen to research, placing personality traits in each of the branches of the webs (Field Notes 4).

Maggie chose to create a tri-fold board for one of her products. She displayed several pictures of Jupiter, Juno and Mars. She also wrote facts about each that gave the reader an idea of the personality of each. In a discussion with Maggie, it was found that her placement of each god was well thought out. Jupiter, the king of gods, was placed in the center, the largest part of the board. Maggie stated she chose this spot because Jupiter thought he was the most important god and he should have the most attention and the best of everything (Field Notes 7).

For her second product, Maggie chose to write a skit that would show the three gods she had chosen interacting. Maggie had extra conferences with Mrs. Vashlen to work on revising and editing her skit. Maggie played the part of Juno in her skit and included two students from her home classroom to play the parts of Jupiter and Mars. The skit was recorded at Maggie’s house by her father. In the skit, Maggie showed Jupiter and Mars arguing about how to fight a war and Juno trying to make them agree, showing both the personality traits of the gods and how they would interact.
Challenging Work

Data from the questionnaires, the student exit slip (Appendix G), observations and the interview with Mrs. Vashlen indicated that participants believed gifted students should be offered challenging work. Results also showed that regular education teachers, in particular, struggled with providing this work to their gifted students. Data collected from the regular education teachers through an open-ended questionnaire (Appendix H) will be presented first, followed by results from FIND students’ exits slips and observations of the FIND classroom. Observations of the FIND classroom, along with the interview, also provided results from Mrs. Vashlen, which will be presented last.

Regular education teachers. From the questionnaire data, it was found that the regular education teachers involved in the study seemed to understand that there was a need to challenge their gifted students. However, results showed that they struggled with offering the students challenging activities appropriate to the students’ ability levels. The questionnaires indicated that rather than modifying the requirements of lessons and activities, regular education teachers added more requirements and, therefore, more work. Data revealed that these teachers realized that more was not the most appropriate solution but struggled to find other, more appropriate options. One teacher said, “I don’t want to pile more work on them… [but] I struggle to find high interest activities for them”.

According to the questionnaires, the regular education teachers also had difficulty with providing work that motivated the gifted students in their classrooms. One regular education teacher noted she struggled most with her gifted students who were not motivated to work and learn. In her questionnaire this teacher stated, “It is hard not to get frustrated with them because you know they are so capable”. Another teacher indicated having a similar problem when
attempting to plan activities for her gifted students. She noted that her difficulties were in finding activities that had the combination of providing challenge, interest and motivation to her gifted students, saying, “They seem bored and resentful that they just can’t read [independently]”.

The results from the questionnaire of one out of four teachers contradicted the rest. She stated that “as long as you know your kids really well, meeting their needs isn’t hard”. She noted the importance of challenging her gifted students and not just giving them “busy work”. She believed she only needed “to really know their strengths, weaknesses and interests and be prepared for them”.

Students. According to the student exit slip (Appendix G), the gifted students who participated in the FIND program enjoyed the challenging work they were given in the FIND classroom. Many of the students indicated they would enjoy their time in their regular education classrooms more if they were offered challenges similar to those in the FIND classroom.

When asked on the exit slip which activity in FIND was their favorite, many of the students stated that it was the independent study. One student wrote that he liked working on his independent study “because its [sic] challenging. It makes me think hard”. Another student stated during an observation of the FIND classroom that she liked her independent study “because I like working on projects that are hard and challenging. I also like taking time” (Field Notes 5). This student indicated that she liked being able to do in-depth work rather than just simply “covering” content.

Many other students indicated on the exit slip that they preferred activities that not only challenged them but that also took large amounts of time and allowed them to explore topics in-
depth. One student wrote that she liked all “big projects” because “I like working on them at long periods of time”.

While the majority of the gifted students participating in the FIND program showed through the exit slip and observations that they preferred to be challenged in their academic work, one student seemed to disagree. When asked on the exit slip which activities from his home classroom were his favorite and why, he responded, “I like the homework because it is easy”. He also stated during an observation that he liked math in his regular education classroom for the same reason, indicating that he did not feel the need to be challenged.

**Mrs. Vashlen.** The interview with Mrs. Vashlen, combined with observations of the FIND classroom, showed the Mrs. Vashlen also believed that gifted students need to be given challenging work. During the interview, Mrs. Vashlen stated that gifted students need to be challenged to the point of frustration “because that means they don’t know something and have to figure it out”.

As the exit slips and observations showed with the gifted students participating in FIND, the interview with Mrs. Vashlen also showed that providing long-term activities goes hand-in-hand with providing challenging work. Mrs. Vashlen noted that, in the FIND classroom, the focus is on the process, where students work on “thinking skills and learning to learn”. Providing students with long-term activities, according to Mrs. Vashlen, gives students the opportunity to work on the process of learning.

Mrs. Vashlen also discussed her use of Bloom’s Taxonomy to ensure her gifted students were being challenged, saying she liked the students to be using the higher levels of thinking as often as possible. During one observation, Mrs. Vashlen was preparing her students to complete their “Topic Exploration” sheets (Appendix B), for which students were asked to create
questions they had about the topics they were interested in for each level of Bloom’s Taxonomy. Mrs. Vashlen gave her students an age-appropriate description of each level in the Taxonomy (knowledge, comprehension, application, analysis, synthesis, and evaluation), and explained how students could tell which level they were working in. As an example, Mrs. Vashlen told her students they were working in the analysis level when they were comparing and contrasting two books they had read. Mrs. Vashlen also explained some of the key “questioning words” for each level; such as explain (comprehension), use (application) and create (synthesize) (Field Notes 1). In the interview, Mrs. Vashlen stated that she often reminded students to push and challenge themselves by working in the top three levels of Bloom’s Taxonomy.

Summary

Analysis of the data collected through observations, student artifacts, regular education teacher questionnaires and one interview with Mrs. Vashlen led to the development of a number of themes. Observations, artifacts and the interview showed the importance of the independent study to the FIND classroom, which was described in detail and included pre-assessment, conferencing and goal-setting. Results from all sources of data led to the theme of providing challenging work to gifted students.
CHAPTER V: DISCUSSION AND CONCLUSIONS

This chapter includes a discussion of the results obtained from this study as well as connections between the results and previously existing literature. The discussion will be organized by research questions. The research questions guiding this study were: 1) What strategies do educators of gifted elementary students use in gifted pull-out programs? 2) What do teachers and students believe is necessary to support gifted students’ learning in a regular education classroom? This chapter will also include recommendations for regular education teachers and for further research as well as a reflection on the research.

Discussion

Research question one: What strategies do teachers of gifted elementary students use in gifted pull-out programs? The results of this study showed that the primary strategy used to support gifted students in the FIND (Furthering Interests and Nurturing Development) program was the independent study. For the duration of the study, the students in the FIND classroom spent the majority of their time, almost to the exclusion of other activities, doing independent studies. Powers (2008) found that the use of independent studies was an effective strategy to use with gifted students, as it gave those students the opportunity to work with a topic that was able to hold their interest and attention. The use of the independent study allowed Mrs. Vashlen to differentiate instruction for her gifted students in the three most commonly accepted areas: content, process and product (Heacox, 2002; Levy, 2008; Tomlinson & Allan, 2008; Wormeli, 2007).

Each student was allowed to choose his or her topic, or content, for the independent study with the guidance of Mrs. Vashlen. By allowing her students to make the choices in each of their independent studies, Mrs. Vashlen made the learning more meaningful to each of her students, a
vital component in gifted education (Powers, 2008). Students chose topics such as the human heart, San Diego, Roman Gods and Goddesses, giraffes, butterflies, and nail polish.

In order for Mrs. Vashlen to assist each of her students in choosing an appropriate topic, she first had to pre-assess her students. Pre-assessing students is crucial to differentiating instruction (Cox, 2008; Heacox, 2002; Manning, et al., 2010; Tomlinson, 2004; Tomlinson & Allan, 2000). Mrs. Vashlen was observed using two pre-assessments in her classroom: the “I’ve Been Wondering…” sheet and the “Topic Exploration” sheet. Both of these pre-assessments asked students to briefly consider topics they were curious about and questions they had about each topic. Mrs. Vashlen used these pre-assessments as a way to discover the interests of each of the students in the FIND classroom. Once a teacher is knowledgeable about the interests of her students, she is able to provide the students with opportunities and support to pursue these interests (Renzulli & Renzulli, 2010; Tomlinson & Allan, 2000).

The nature of the independent study allowed for differentiation in the process of learning. Differentiating the process for each student increases the likelihood that students will not only learn the content, but will also understand it a deeper level (Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007). Due to the fact that each student was working with a different topic, differentiating the process was necessary for the independent study. For the duration of the classroom observations, the FIND students were typically at different points in the independent study process. Students’ needs were met when Mrs. Vashlen gave them choices in their methods of gathering information and note-taking. Students were allowed to find information from books or the Internet. They could also use knowledgeable people as a resource. Carly interviewed her aunt and uncle who lived in San Diego. Jacob took notes traditionally on a lined sheet of paper. Carly used notecards to take notes while Maggie used a web. Mrs. Vashlen also accommodated
the needs of the students throughout the entire process by conferencing with each student frequently, answering individual questions, and supporting the students in setting goals, both short- and long-term. By holding individualized conferences with each student, Mrs. Vashlen allowed her gifted students to take an active role in their learning. Researchers also believe that gifted students should be directly involved in the planning of their personalized curriculum (Callahan, 2001; Heacox, 2002; Renzulli & Renzulli, 2010). Moreover, Morisano and Shore (2010) hold that giving students a sizable role in developing their own goals contributes to the value students find in the goals.

As a part of the independent study, each student was asked to create two products to highlight what they had learned through their research. The products were chosen by the students and included tri-fold boards, brochures, models, PowerPoint presentations, video-recorded skits and many others. As differentiation experts in the field believe should be the case, Mrs. Vashlen allowed the students in the FIND classroom to apply what they learned during the process of the independent studies in various ways which showed the strengths and interests of each student (Heacox, 2002; Levy, 2008; Tomlinson & Allan, 2000; Wormeli, 2007). The readiness, interests, and learning profiles of gifted students differ as drastically as those of typically developing students (Callahan, 2001; Heacox, 2002, Manning et al., 2010; Tomlinson, 2004). The variation in the level of difficulty in the products also allowed each student to be challenged based on their individual needs.

Differentiated instruction allows a teacher to be responsive to the academic needs of diverse learners, giving each student meaningful, relevant and challenging learning experiences (Heacox, 2002; Levy, 2008; Tomlinson, 1995; Tomlinson, 2000; Wormeli, 2007). By differentiating in the areas of content, process and product in this way, Mrs. Vashlen was
providing each of the students in her FIND classroom the opportunity to reach his or her highest potential by giving each what they needed to grow academically (Cox, 2008).

**Research question two: What do teachers and students believe is necessary to support gifted students’ learning in a regular education classroom?** Along with differentiation through content, process and product, this study revealed that teachers and students believed challenging work was necessary for gifted learners to develop intellectual skills. Students who participated in the FIND program revealed that they appreciated the challenge they received from the independent study project. They also expressed their desire to be offered a similar challenge in their regular education classrooms. These findings are supported by Powers (2008), who conducted a study on the use of independent study projects with gifted students in the regular education classroom. The study found that gifted students enjoyed the opportunity an independent study gave them to perform a challenging, in-depth investigation on a topic that fascinated them.

Mrs. Vashlen agreed that gifted students must be provided with challenging work. To ensure they were using higher-order thinking, Mrs. Vashlen introduced her students to Bloom’s Taxonomy and frequently urged them to work in the three highest levels: analyzing, synthesizing and evaluating. Corresponding with Mrs. Vashlen’s views, Callahan (2001) and Heacox (2002) believe higher-order thinking is crucial for gifted students to grow intellectually. Mrs. Vashlen’s concern for developing the intellectual skills of her gifted students also coincides with the concerns of researchers and experts in the field of gifted education who maintain that the absence of challenges in the education of gifted learners could inhibit the development of their problem-solving abilities (Manning et al., 2010; Moon et al., 2003).
The study also indicated that, while regular education teachers recognized the need for challenge, they struggled to provide gifted students with appropriately challenging work. The regular education teachers involved in this study seemed to have particular difficulty in motivating their gifted students and in keeping them interested. Research suggests that many regular education teachers have the same difficulties, often stemming from the idea that gifted students are able to supply themselves with the challenging work they require (Heacox, 2002; Manning et al., 2010; Tomlinson, 1995).

Recommendations

While this research study was by no means exhaustive, it was conclusive enough to make some recommendations. Recommendations will be made for regular education teachers and the support of gifted students in the regular education classrooms. Areas where further research could be conducted will also be suggested.

Recommendations for teachers. Mrs. Vashlen and the students in the FIND classroom asserted that the independent study was an appropriate project for gifted students due to the focus on the individual interests of the students and the level of challenge provided to the students. Research agrees that the independent study is a feasible option for gifted students and has been implemented in the regular education classroom (Powers, 2008). While it is recommended that regular education teachers consider the use of independent studies as a strategy for meeting the needs of their gifted students, it is also recommended that teachers first familiarize themselves with the research using independent studies in the classroom.

Regular education teachers could set aside one day per week to work on an independent study with all of the students in their classrooms. The duration and frequency of the independent study project depends on the teacher’s and class’s needs. However, an independent study could
be completed in one quarter. As Mrs. Vashlen did in the FIND classroom, the regular education teacher could hold conferences with each student each week. These conferences could be used to offer support and guidance and to assist the students in setting goals. Since there are typically more than 13 students in a regular education classroom, the teacher could set a broad theme for the independent study, such as “the ocean” or “the galaxy”. This would make it easier for the teacher to aid the students in finding resources. If the theme is open enough, most students would still be able to find a topic of interest.

Furthermore, regular education teachers should be aware of additional research-based strategies that are suggested for gifted students in the regular education classroom such as, curriculum compacting, acceleration and enrichment clusters. In order to implement any of the suggested strategies, teachers must have extensive knowledge of differentiated instruction as a philosophy of teaching. This includes being familiar with the areas in which to differentiate (content, process and product), what differentiation looks like in each area, how to differentiate in each area and the pre-assessments that are necessary to create a profile for each student.

**Recommendations for further research.** This study found that the gifted students in the FIND classroom enjoyed the challenge that was offered with the independent study and that teachers and students felt challenging work was necessary for gifted students. While suggestions for regular education teachers emerged from this study, there are several areas where further research is needed.

Due to the classroom setting where the observations for the study took place, the focus of the research was almost exclusively on the use of independent studies. Research should be conducted on other strategies of differentiation for gifted students. In addition, this study considered only one gifted classroom of third grade students. In order to determine the needs of
a wider range of gifted students, research should be done in various grade levels and school contexts (rural, urban, and suburban). Gifted students themselves should be considered as an area for further research in order to determine their views on gifted education.

This study concentrated on a gifted pull-out program and the strategies used while students were attending the program. While this is the beginning of determining how to support gifted students in the regular education classroom, much more research is needed. The implementation of differentiated instruction for gifted students in the regular education classroom should be studied. Furthermore, the use of specific strategies, such as the independent study, needs to be studied. The methods of implementation and classroom management are necessary parts of the strategies and must be included in the research as well.

**Reflection on the Research**

This study provided extensive observations of the use of independent studies for gifted students. Based on the data collected from observation, artifacts, questionnaires and one interview, the use of independent studies for gifted students in the regular education elementary classroom was recommended. However, other strategies for the support of gifted students were not able to be recommended from the information gained in this study.

While the independent study is a viable option, it should not be considered the only strategy a regular education can use to support gifted students in his or her classroom. At the conclusion of the research, the lack of additional strategies to be suggested for use in the regular education classroom was a disappointment.

It should be noted that the students were in the FIND classroom one day a week, and that the program began several weeks after the regular school year began and ended several weeks before the school year ended. Mrs. Vashlen revealed that, barring any school closures, the FIND
students were only in her classroom 39 days out of the school year. Knowing this, it seems understandable that one strategy was the focus of the students’ time in the FIND classroom.

During a conversation with Mrs. Vashlen it was mentioned that the elementary teachers in the school district were being provided with professional development on using differentiated instruction in their classrooms. While further inquiry into this was not made, the training in differentiation was not apparent in the research, particularly in the questionnaire data collected from the regular education teachers, where it would have been most apparent had it been implemented.

Conclusions

Many researchers and experts in the field believe that differentiated instruction is necessary in order to give students the opportunity to grow to their fullest potential (Callahan, 2001; Cox, 2008; Heacox, 2002; Manning et al., 2010; Tomlinson, 2004). This research study found that independent studies are able to meet some needs of gifted students. It was also ascertained through this study that teachers and students believed gifted students should be offered work that was challenging to them. Research agrees with both the use of the independent study as well as the need for challenging material (Callahan, 2001; Heacox, 2002; Powers, 2008; Renzulli & Renzulli, 2010; Tomlinson, 1995). However, the independent study cannot be assumed to be the only, or even the best, option for every gifted student in every classroom. Other options such as acceleration, curriculum compacting, and the use of enrichment clusters are offered in research (Callahan, 2000; Heacox, 2002; Manning et al., 2010; Reis & Renzulli, 2010; Renzulli & Renzulli, 2010). The needs, abilities and interests of gifted students differ as much as those of all other students (Callahan, 2001, Heacox, 2002; Tomlinson, 2004). Teachers should carefully consider the findings of this study, the research cited in this study and the
individual needs of each student when attempting to implement strategies of differentiated instruction in their classrooms.
REFERENCES


Appendix A

Project Planner
<table>
<thead>
<tr>
<th>Date</th>
<th>Goals for Today</th>
<th>What I Accomplished</th>
<th>What I Still Need to Do</th>
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<td>Bring to Class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 1</td>
<td>Notebook</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In Class: Select Topic – Exploration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learn about Bloom’s Thinking Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 7/8</td>
<td>Bring to Class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In Class: Select Topic – Exploration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec. 14/15</td>
<td>Bring to Class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In Class: Select Topic – Exploration</td>
<td></td>
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</tr>
<tr>
<td>Dec. 21/20</td>
<td>Bring to Class:</td>
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<tr>
<td></td>
<td>Notebook</td>
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<td></td>
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<tr>
<td></td>
<td>In Class: Select Topic – Criteria</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Select a Topic Conference I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 4/5</td>
<td>Bring to Class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reference materials (books, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In Class: Survey the Topic – Gain background knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Goals for Today</td>
<td>What I Accomplished</td>
<td>What I Still Need to Do</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| Jan. 11/12 | Bring to Class:  
Notebook  
Reference materials  
In Class:  
Survey the Topic - Conference 2  
Determine Bigger Question – start thinking on this  
Collect Data – Start taking notes |                      |                        |
| Jan. 18/19 | Bring to Class:  
Notebook  
Reference materials  
In Class:  
Determine Bigger Question – start on this  
Collect Data – Start taking notes |                      |                        |
| Jan. 25/26 | Bring to Class:  
Notebook  
Reference materials  
In Class:  
Determine Bigger Question – Conference 3  
Collect Data – Continue taking notes  
Determine Solution – gather background information for this |                      |                        |
| Feb. 1/2   | Bring to Class:  
Notebook  
Reference materials  
In Class:  
Collect Data – Conference 4  
Determine Solution – work on solution |                      |                        |
| Feb. 8/9   | Bring to Class:  
Notebook  
Reference materials  
In Class:  
Determine Solution – Conference 5 |                      |                        |
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 15/16</td>
<td>Bring to Class:</td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
</tr>
<tr>
<td></td>
<td>Reference materials</td>
</tr>
<tr>
<td></td>
<td>Completed notes and bibliography</td>
</tr>
<tr>
<td></td>
<td>In Class:</td>
</tr>
<tr>
<td></td>
<td><strong>Collect Data—Conference 4</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Determine Solution—work on solution</strong></td>
</tr>
<tr>
<td>Feb. 22/23</td>
<td>Bring to Class:</td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
</tr>
<tr>
<td></td>
<td>Materials for Bigger Question Work</td>
</tr>
<tr>
<td></td>
<td>In Class:</td>
</tr>
<tr>
<td></td>
<td><strong>Determine Solution—Conference 5</strong></td>
</tr>
<tr>
<td>Mar. 1/2</td>
<td>Bring to Class:</td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
</tr>
<tr>
<td></td>
<td>In Class</td>
</tr>
<tr>
<td></td>
<td><strong>Plan and Make Products—work on</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Plan and Make Products—Confer. 6</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Plan and Do Presentations—work on</strong></td>
</tr>
<tr>
<td>Mar. 8/9</td>
<td>Bring to Class:</td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
</tr>
<tr>
<td></td>
<td>Materials for products</td>
</tr>
<tr>
<td></td>
<td>In Class:</td>
</tr>
<tr>
<td></td>
<td><strong>Plan and Make Products—work on</strong></td>
</tr>
<tr>
<td>Mar. 15/16</td>
<td>Bring to Class:</td>
</tr>
<tr>
<td></td>
<td>Notebook</td>
</tr>
<tr>
<td></td>
<td>Materials for products</td>
</tr>
<tr>
<td></td>
<td>Materials for presentations</td>
</tr>
<tr>
<td></td>
<td>In Class:</td>
</tr>
<tr>
<td></td>
<td><strong>Plan and Make Products—work on</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Plan and Do Presentations—Confer. 7</strong></td>
</tr>
<tr>
<td>Date</td>
<td>Goals for Today</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------</td>
</tr>
</tbody>
</table>
| Mar. 22/23 | Bring to Class: Notebook  
Materials for products  
Materials for presentations  
In Class:  
Status Check—Conference 8  
Plan and Make Products—work on  
Plan and Do Presentations—work on |                     |             |
| Mar. 29/30 | Bring to Class: Notebook  
Materials for products  
Materials for presentations  
In Class:  
Plan and Make Products—work on  
Plan and Make Presentations—work on |                     |             |
| Apr. 5/6    | In Class:  
4 Presentations |                     |             |
| Apr. 12/13  | In Class:  
4 Presentations |                     |             |
| Apr. 14     | **Independent Study Showcase**                      |                     |             |
| Apr. 19/20  | Spring Break                                         |                     |             |
| Apr. 26/27  | In Class:  
4 Presentations |                     |             |
| May 3/4     | In Class:  
4 Presentations |                     |             |
| May 10/11   | In Class:  
**Evaluation—Conference 9** |                     |             |
Appendix B

Pre-Assessments
Select a Topic

1. You started this step at the beginning of the school year when you started filling in your “I Wonder...” sheets.

2. Look back through these and see if there are any topics which continue to “spark” your interest.

3. Think about the levels and types of thinking and questioning on which we have been working:
   - knowledge
   - comprehension
   - application
   - analysis
   - synthesis
   - evaluation

4. Complete 3 or 4 Topic Exploration sheets starting from the bottom and going to the top!
<table>
<thead>
<tr>
<th>Evaluate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthesis</td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
</tr>
</tbody>
</table>

Possible Topic: _____________________________

**Topic Exploration**
Select a Topic—Conference 1

1. I have decided on the following general topic to explore:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. I will bring 2-3 sources to school on Jan. ____ to begin my background research.

Conference 1

Date: ____________________________________________

Student Signature: __________________________________

Teacher Signature: __________________________________
Survey the Topic—Conference 2

1. I have decided on the following subtopics:

   ______________________________________
   ______________________________________
   ______________________________________
   ______________________________________

2. I am using the following method to take notes:

   ______________________________________
   ______________________________________
   ______________________________________
   ______________________________________

2. I am using the following sources:

   ______________________________________
   ______________________________________
   ______________________________________
   ______________________________________

Conference 2

Date: ______________________________________

Student Signature: _________________________

Teacher Signature: _________________________
1. I am continuing my general research and taking more notes.

2. I have gone over my BIGGER QUESTION Procedure with [name redacted].

Conference 3

Date: __________________________________________

Student Signature: __________________________________________

Teacher Signature: __________________________________________
Collect Data—Conference 4

1. I am done with my background research.

2. I am working on my BIGGER QUESTION.

Conference 4

Date: __________________________________________

Student Signature: __________________________________

Teacher Signature: __________________________________
I have shown _____ as my Solution/Answer page.

Conference 5

Date: ________________________________

Student Signature: ________________________________

Teacher Signature: ________________________________
Products—Conference 6

1. I have discussed my products with blank.

2. I am working on them.

Conference 6

Date:__________________________________________

Student Signature:______________________________

Teacher Signature:______________________________
Presentations—Conference 7

I have shown [redacted] my plan for the class presentation.

I have shown [redacted] my plan for the showcase.

Conference 7

Date: ________________________________

Student Signature: ____________________

Teacher Signature: ____________________
Status Check—Conference 8

What I have completed: 

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

What I still need to do: 

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

Conference 8

Date: __________________________

Student Signature: __________________________

Teacher Signature: __________________________
Appendix D

Consent Forms
Informed Consent Form - Main Participant (Teacher of gifted pull-out program)
Title of Project: Supporting Gifted Students in Regular Education Elementary Classrooms
Principal Investigator: Brittany Lauder, School of Teaching and Learning

Introduction: I am a graduate student at Bowling Green State University pursuing my Master’s degree in Curriculum and Teaching through the school of Teaching and Learning. As part of the requirements at BGSU I am writing a thesis with the guidance of my advisor, Dr. Brigid Burke. My thesis is focusing on the areas of gifted education, particularly the strategies that are used with gifted students in pull-out programs. I am asking you to participate in my study because you teach students identified as gifted in a pull-out program.

Purpose: The purpose of my research is to find strategies that can be used to support the needs of gifted students in the regular education classroom. This information can benefit classroom teachers by offering strategies they can use to help gifted students reach their full potential.

Procedure: For my research I will be visiting your classroom one day a week, for the full day, for up to ten weeks. During these visits I will be observing the strategies you use with your students. I will also be collecting classroom artifacts, such as lesson plans and worksheets, used in your classroom. In addition, I ask that you participate in a formal interview with me. The initial interview may last up to one hour. I may also ask for a follow-up interview to clarify points from the first interview.

Voluntary nature: Your participation is completely voluntary. You are free to withdraw at any time. You may decide not to answer questions or to discontinue participation at any time without penalty. Deciding to participate or not will not affect your relationship with your school. Declining to participate will not affect your school’s future relationship with BGSU.

Confidentiality: Observation notes, classroom artifacts, and interview transcripts will be kept in a locked filing cabinet in my home office. Only my advisor, Dr. Brigid Burke, and I will have access to the data and this consent form. If any of the artifacts will be used in my writing I will strip them of any identifiers, such as names and school affiliations. When writing about the information from my research I will use a pseudonym for both you and your school.

Risks: There are no risks to participating in this study outside of those encountered in everyday life.

Contact information: If you have any questions about my research or your participation in this research you may contact me at any time: 529 Education Building, Bowling Green, OH 43403; brittl@bgsu.edu; 419-654-1396. You may also contact my advisor, Dr. Brigid Burke, with any questions: bburke@bgsu.edu; 419-372-7324. You may also contact the Chair, Human Subjects Review Board at 419-372-7716 or hrsb@bgsu.edu if you have any questions about your rights as a participant in this research. Thank you for your time.

I have been informed of the purposes, procedures, risks and benefits of this study. I have had the opportunity to have all my questions answered and have been informed that my participation is completely voluntary. I agree to participate in this research.

Participant Signature

Date

Principal Investigator Signature
Informed Consent Form: Regular Education Teachers

Title of Project: Supporting Gifted Students in Regular Education Elementary Classrooms

Principal Investigator: Brittany Launier, School of Teaching and Learning

Introduction: I am a graduate student at Bowling Green State University pursuing my Master’s degree in Curriculum and Teaching through the school of Teaching and Learning. As part of the requirements at BGSU I am writing a thesis with the guidance of my advisor, Dr. Brigid Burke. My thesis is focusing on the areas of gifted education, particularly the strategies that are used with gifted students in pull-out programs. I am asking you to participate in my study because you have a student in your classroom that has been identified as gifted.

Purpose: The purpose of my research is to find strategies that can be used to support the needs of gifted students in the regular education classroom. This information can benefit classroom teachers by offering strategies they can use to help gifted students reach their full potential.

Procedure: For my research I will be conducting observations and collecting classroom artifacts in a gifted pull-out program. I ask that you answer open-ended questions in a questionnaire.

Voluntary nature: Your participation is completely voluntary. You are free to withdraw at any time. You may decide not to answer questions or to discontinue participation at any time without penalty. Deciding to participate or not will not affect your relationship with your school. Declining to participate will not affect your school’s future relationship with BGSU.

Confidentiality: Transcripts and notes from the questionnaire and possible interview will be kept in a locked filing cabinet in my office. Only my advisor, Dr. Brigid Burke, and I will have access to the data and the consent forms. When writing about your answers for the questionnaire I will use a pseudonym for both you and your school.

Risks: There are no risks to participating in this study outside of those encountered in everyday life.

Contact information: If you have any questions about my research or your participation in this research you may contact me at any time: 529 Education Building, Bowling Green, OH 43403; brittl@bgsu.edu. 419-654-1386. You may also contact my advisor, Dr. Brigid Burke, with any questions: bburke@bgsu.edu; 419-372-7324. You may also contact the Chair, Human Subjects Review Board at 419-372-7716 or hrsrb@bgsu.edu, if you have any questions about your rights as a participant in this research. Thank you for your time.

I have been informed of the purposes, procedures, risks and benefits of this study. I have had the opportunity to have all my questions answered and have been informed that my participation is completely voluntary. I agree to participate in this research.

Participant Signature ____________________________  Principal Investigator Signature ____________________________

Date ____________________________

School of Teaching and Learning
529 Education Building
Bowling Green, Ohio 43403-0280  419-372-7324
fax 419-372-6486
www.bgsu.edu
Appendix E

Observation Protocol
<table>
<thead>
<tr>
<th>Time</th>
<th>Pattern of Interaction</th>
<th>Activity and Strategy</th>
</tr>
</thead>
</table>

Conversation/Other Observations:

Observer Thoughts/Interpretations/Questions:
Appendix F

Main Participant Interview Questions
Describe a typical day in your classroom.

How do you approach teaching your gifted students?

What do you believe you do differently with your gifted students that they may not experience with their regular education teachers?

Describe a lesson or activity you have implemented that has worked well with your students. Why do you believe it went well? (feel free to include a lesson plan and/or supplementary materials)

How do you structure your lessons and activities to ensure you are meeting the needs of your students?

I have noticed in my first few observations that you have your students set their own goals for their work. Can you tell me why you do this? And what is your process for making this happen?

What advice would you give to a teacher who is struggling to support the gifted student in his or her regular education classroom?

In what ways do you communicate with your gifted students’ classroom teachers?
Appendix G

FIND Student Exit Slip
Please describe one of your favorite activities in FIND in 3-4 sentences.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Please describe one of your favorite activities in your home classroom in 3-4 sentences.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What is something that you do in FIND that you wish you could do in your home classroom?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix H

Regular Education Teacher Questionnaire
**Questionnaire for regular education teachers** – You may type your answers directly into this document or you may use a separate sheet of paper if you prefer to handwritten your answers.

Thank you for agreeing to participate in this study and fill out this questionnaire. Please answer these questions in as much detail as possible. If you have any questions do not hesitate to email me at britll@bgsu.edu.

Describe a typical day in your classroom.

How do you approach teaching your gifted students?

Explain a few strategies or methods you use to meet the needs of all your students. Be specific.

Describe a lesson or activity you have implemented that has worked well in meeting the needs of all your students? Why do you believe it went well? (Feel free to include a lesson plan and/or supplementary materials)

Have you found ways to meet the needs of your gifted students that work well?

What struggles do you experience related to teaching your gifted students?
Can you give an example of a time when you struggled to meet the needs of your gifted student(s)? Were you able to overcome this struggle? If so, how?

In what ways do you communicate or work with the FIND teacher?