

ABSTRACT

GRAY, ELIZABETH JEAN. Perspectives of Students who are Academically or Intellectually Gifted in Agricultural Education Programs in North Carolina. (Under the direction of Dr. Gary E. Moore.)

This study was conducted qualitatively through the use of focus groups. The purpose of this study was to learn how to attract more AIG students to agricultural education programs, what agricultural educators are doing to meet the needs of AIG students, and the perceptions that AIG students have of agricultural education programs. The study found that students who are gifted are attracted to atmosphere of the classes, the three-component design of Agricultural Education, influential people, personal interests and the real life value of the knowledge gained in agriculture classes. In addition, the factors which deterred students from enrolling in agriculture courses were a lack of accurate information, the presence of academic pressure, scheduling, and the attitude of other classmates. The factors which most contributed to successful learning for the students was hands-on "learning by doing, direct teaching methods used by their teachers, the characteristics of their teachers, and integrating the subject matter. The perceptions of students in agricultural courses who are AIG were positive overall. The students also perceived that the teacher was the central most important factor in a successful program and that the level of challenge in agriculture classes was well balanced. There were only a few factors that contributed to negative perceptions for some, the most prevalent of which was the attitudes of the students' classmates.

Perspectives of Students who are Academically or Intellectually Gifted in Agricultural
Education Programs in North Carolina

by
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DEDICATION

To all of you who made this such a “rocky” journey....

BIOGRAPHY

Elizabeth Gray was born in Concord, North Carolina to Anne and Gene Gray. She grew up in a rural community called Rimer Town with her brother, Nick. Elizabeth attended high school at Mt. Pleasant High School in Mt. Pleasant, North Carolina. Her freshman year, she took her first agricultural education class and fell in love with Horticulture. Throughout the remainder of high school, she was active in the FFA serving as Chapter Reporter and President and competing in Horticulture CDE's.

Elizabeth knew at a very young age that she wanted to be a teacher when she grew up. While in the Agricultural Education program at her high school, Elizabeth's horticulture teacher, Shannon Vanhoy, inspired her to become an agriculture teacher. She graduated from Mt. Pleasant in May of 2005 and began attending North Carolina State University in Raleigh that fall, pursuing her Bachelor of Science degree in Agricultural Education.

She completed her student teaching at Southern Nash High School in Bailey, North Carolina in the spring of 2009 and graduated with honors in May 2009. The following fall, Elizabeth began her graduate studies at NCSU. She graduated with her Master of Science degree in May of 2011 still planning to be an agriculture teacher when she grew up.

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And finally, to the students who inspired and gave life to this project, thank you for sharing your experiences with me. I know you will each go far and, thanks to your willingness to help, so will those who come after you.

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CHAPTER 1

INTRODUCTION

Academically or Intellectually Gifted (AIG) students were first officially identified in North Carolina schools in 1961 when the first legislation governing gifted education was passed. In 1974, AIG children were recognized as children with special needs and North Carolina created a system of educational opportunities for all children requiring special education (North Carolina Department of Public Instruction, 2009). Today, Article 9B of the North Carolina General Statutes (NCGS) defines AIG students as those who “perform or show the potential to perform at substantially high levels of accomplishment when compared with others of their age, experience, or environment” (1996).

The NCGS (1996) requires that AIG students receive differentiated educational services beyond those ordinarily provided by the regular educational program (North Carolina General Assembly, 1996). In order to do so, the State Board of Education approved Program Standards to which all public schools in North Carolina are held.

To meet these standards in secondary schools, public high schools in North Carolina have adopted honors, advanced placement, and international baccalaureate level classes to challenge AIG students. In these higher level courses, students have the opportunity to earn weighted grade point average points, learn on a college level, and even receive college credit.

Unfortunately, these courses are mainly offered in the core subject areas such as English, History, Science, and Math. Consequently, in other subject areas, it is unknown if the needs of AIG students are being met. Especially, with the passage of the No Child Left Behind Act of 2001(NCLB), the major emphasis in schools has been placed on helping students who achieve at lower levels meet the standards. In fact, NCLB does not mention students who are AIG. As a result, many believe that students who are AIG are being underserved (Curtis, Justice, & Curtis, 1980; Gross, 2000; Winebrenner, 2001).

Teachers are often pressured to spend the majority of their time helping to improve the performance of students achieving below grade level. Therefore, the emotional, academic, and intellectual needs of students who are gifted are often neglected under the assumption that students who are gifted can fend for themselves. In many cases these students are already performing at levels well above the curriculum of their grade level. Without guidance and challenge, it is believed that students who are gifted will learn less in a school year than any other group of students in a classroom of students with mixed abilities (Winebrenner, 2001).

Recent research also supports the belief that students who are gifted are being underserved. In 2008, the Thomas B. Fordham Institute released a report concerning the academic gains of students who are gifted since the passage of the No Child Left Behind Act performance (Loveless, Farkas, &Duffett). The report found that high achieving students have made very minimal gains in closing the achievement gap. The study found that this was due in large part to the growing use of standardized tests as

systems of accountability. The study found that because of these systems, educators felt pressured to focus on the needs of students who are achieving at lower levels as 60 percent reported making these students their top priority. Consequently, the needs of students who were already achieving at higher levels are being neglected resulting in what the study called “languid” performance (Loveless, Farkas, & Duffett, 2008, p. 10).

In the field of Agricultural Education, very little is known of the status of AIG students (S. Shah-Coltrane, personal communication, January 14, 2011). Much attention has been given to children with disabilities and their needs, but what are we doing in Agricultural Education to meet the special needs of the Academically or Intellectually Gifted?

Agricultural Education is unique in that it prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources systems (The National FFA Organization, 2010). Students who participate in these programs graduate with the comprehensive career training and skills needed to become leaders in the multi-faceted agriculture industry (North Carolina Department of Public Instruction, N.D.).

Students are able to gain these skills through three major components of Agricultural Education which provide them with the potential for leadership development, personal growth, and career success (The National FFA Organization, 2010). These components are classroom and laboratory instruction, work based learning, and student leadership organizations. For students in agricultural education

programs in North Carolina, classroom and laboratory instruction consists of contextual learning within the classroom and the lab setting. To accomplish this, many programs have facilities on or near their campuses at which students can apply the knowledge they gain from the classroom in a lab type setting. These facilities include greenhouses, agricultural mechanics shops, barns with livestock, and science laboratories (Talbert, Vaughn, Croom, & Lee, 2007).

In addition to learning in the classroom, students who participate in agricultural education programs gain experience outside of the classroom through a component known as the Supervised Agriculture Experience (SAE). Students choose a project to work on outside of school and are responsible for maintaining their own records. Students can then be rewarded for quality work on their SAE's with proficiency awards and degrees within the National FFA Organization (Talbert, Vaughn, Croom, & Lee, 2007).

Unfortunately, research has shown that even though SAE is supposed to account for one third of the total Agricultural Education program, teachers are not implementing the program accordingly. A study by Wilson and Moore (2007) indicated that while teachers acknowledged the importance of SAE as a part of their programs, less than a third of the teachers surveyed had 75% or more of their students participating in their SAE program. They concluded that teachers "...are not doing a quality job of conducting the SAE component of the Agricultural Education program" (Wilson & Moore, 2007, p. 89).

The National FFA Organization, or FFA, is the third and final component of agricultural education. FFA is a youth leadership organization “dedicated to making a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education” (North Carolina FFA Association, 2010). Students involved in the FFA are able to compete against other FFA members in Career Development Events (CDE’s), serve their community through service learning, and form bonds with peers who share their interests.

Though Agricultural Education offers a plethora of opportunities for all students, little is known about what is being done to ensure that students who are Academically or Intellectually Gifted are reaping the full benefits of these programs. Only one of the 20 classes offered in the Agricultural Education program in North Carolina is taught at a challenging honors level. In addition, recent emphasis on standardized test scores has pressured teachers to cater mostly to the needs of students performing below level.

Need for the Study

According to the North Carolina General Statutes, students who are classified as Academically or Intellectually Gifted are considered children with special needs. As such, these students “require differentiated educational services beyond those ordinarily provided by the regular education program” (1996). It is mandated by North Carolina law that students who are AIG receive additional services within the

classroom. While the law is certainly a motivation to ensure that these students are being properly served, the reasoning and principles behind the legislation is of even greater concern. The most pressing issue regarding the services to AIG students is the well-being of the students affectively and cognitively. Ignorance of this issue can ultimately result in diminished potential of the students who are gifted (Coleman & Gallagher, 1995).

A student who is academically gifted can experience cognitive damage if they are not receiving an appropriate level of challenge. Brain research has taught us that neurons, the brain cells responsible for processing and transmitting information, grow and develop when they are active. When they are not being exercised, they deteriorate. Vigorous learning or the lack thereof, has a direct affect on the ability of the brain to function (Tomlinson, 1999). AIG students already have the ability to think in more complex and abstract ways than other students of their age (Coleman & Gallagher, 1995, Winebrenner, 2001). While it is important for all students to experience a moderate level of challenge in learning, AIG students need additional support and opportunities to continue new and vigorous learning to avoid losing brain power (Tomlinson, 1999).

In an essay written in 1996 titled "Is it a Cheetah," Stephanie Tolan compared gifted students to cheetahs to illustrate this concept. Tolan, a writer and advocate for students who are gifted, likened the giftedness of students to the ability of cheetahs to run at 70 miles per hour. While this feat seems extraordinary when comparing the

cheetah with other cats, this behavior is totally normal for the cheetah. However, if a cheetah is confined to a small cage, it will lose its ability and desire to run at top speeds. And if a cheetah is only presented with rabbits which run 20 miles per hour, they are not going to be motivated to perform at their highest speeds. Tolan argues that this is an accurate representation of the way gifted students are treated in today's schools; schools confine gifted minds and do not offer the motivation and challenge that would allow these students need to perform at their greatest capacity. With such constraints, Tolan believes, "...these children may never be able to reach the level of mental functioning they were designed for" (Tolan, 1996).

On the opposite end of the spectrum, research warns against overwhelming the brain with stress. In his book *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School*, John Medina (2008) discusses the affects of stress on the brain. Medina explains that a brain under stress does not perform the same way as a brain under normal circumstances. While temporarily stressful situations may boost the brain's performance, prolonged chronic stress can cause irreversible damage to the brain. Medina states that this is because the chemicals the body releases to cope with stress, such a cortisol, damages the brain and hinders the brain's ability to learn and remember (Medina, 2008).

In addition to the child's cognitive abilities, it is also important to consider the affective impact that appropriate education has on a student who is gifted. Gifted learners must have their needs addressed in order to become capable, valuable,

effective, and successful contributors to our global society. They require challenging, differentiated curriculum and instruction which are developmentally appropriate and will prepare them for the 21st century (Coleman & Gallagher, 1995). Students who do not experience this in their education are likely to become bored, apathetic about school, frustrated, and often cause classroom management issues. Because of this, the dropout rate among students who are gifted has become an issue of interest. The dropout rate among students who are gifted is thought to be anywhere from 1 to an alarming 25 percent (Renzulli & Park, 2000; Matthews, 2006). These statistics are highly argued because of the lack of one standard definition of giftedness among researchers. Though regardless of the rate, it is inarguably a problem which has been linked back to the affective well-being of students who are gifted.

Recently, the Harvard Graduate School of Education released a report which suggests a link between relevant curriculum and dropout rates. The report concluded that much of today's education lacks relevance for a large number of students and as such has resulted in "...extraordinarily high dropout rates" (Harvard Graduate School of Education, 2011, p. 10). The report goes on to recommend that emphasis be placed on career oriented pathways, such as those offered in Agricultural Education and other Career and Technical Education courses. In doing so, dropout rates would decrease while career-readiness would improve (Harvard Graduate School of Education, 2011). These recommendations are also supported by previous Plank's findings in 2001. This

research found that students who were enrolled in CTE courses in addition to their core academic courses were less likely to drop out of school (Plank, 2001).

Yet another cause for concern is the needs of the agriculture industry. The current trend in the industry is moving away from the need for people skilled in production. In order to meet the food and fiber needs of the world and because of advances in the sciences and biotechnology, the industry is being transformed (Houser & Baker, 1991). Instead, the need within the increasingly complex and technologically advanced industry is for highly skilled, well trained, college graduates (Betts & Newcomb, 1986). Recent USDA statistics show that the demand for such qualified individuals will soon surpass the supply (Goecker, Gilmore, & Smith, 2005), putting the industry and the food and fiber supply of the world in jeopardy. Fortunately, students who are Academically or Intellectually Gifted are an ideal group to target to meet some of the demand within the industry (Cannon, Broyles, & Hillison, 2006).

Overbay and Broyles (2008) state that career choice is based on an individual's values and perceptions. Therefore, if we are able to instill in young, gifted individuals the value and necessity of agriculture, we will have more success in attracting these gifted students to careers in the agriculture industry. Agricultural Education programs offer an avenue for teaching students who are gifted about agriculture and the career opportunities available in a rapidly evolving industry (North Carolina Department of Public Instruction, N.D.).

Unfortunately, evidence exists that students who are academically gifted are often counseled away from agricultural education courses (Curtis, Justice, & Curtis, 1980). It is thought that this may be because the perception of administrators that it is not a rigorous academic program “worthy” of the bright minds of students who are gifted (Shelley-Tolbert, Conroy, & Dailey, 2000). Recent studies have also shown that students who are AIG in general have a very narrow view of agriculture as many reported believing it to be an industry characterized by low wages and manual labor (Overbay & Broyles, 2008).

Purpose of the Study

The purpose of this study is to learn more about what can be done to attract students who are AIG to Agricultural Education programs, what agricultural educators are doing to meet the needs of students who are AIG, and the perceptions students who are AIG have of Agricultural Education programs. By doing so, not only will the students be better served, they will also be better prepared to use their academic and intellectual gifts for the benefit of the food and fiber system that supports our state, our country and our world.

Research Questions

The following research questions provided a focus for this study:

1. What attracts students who are Academically or Intellectually Gifted to Agricultural Education courses?
2. What deters students who are Academically or Intellectually Gifted from Agricultural Education Courses?
3. What factors contribute to successful learning for students in Agricultural Education programs who are Academically or Intellectually Gifted?
4. How do students who are Academically or Intellectually Gifted perceive agriculture courses?

Definitions

For the purpose of this study, the definition used for Academically or Intellectually Gifted students is the same as that stated by the North Carolina General Assembly in Article 9B of the General Statutes:

“...academically or intellectually gifted students perform or show the potential to perform at substantially high levels of accomplishment when compared with others of their age, experience, or environment.

Academically or Intellectually gifted students exhibit high performance capability in intellectual areas, specific academic fields, or in both intellectual areas and specific academic fields” (1996).

Assumptions

This study was conducted with the assumption that the methods that each Local Education Agency uses to identify students who are AIG are relatively similar. It is also assumed that the literature reviewed involving students who are gifted used the same or a similar definition of AIG students.

Limitations of the Study

As with most qualitative research, the information collected from the participants of the focus groups is only reflective of their specific experiences. Therefore, these results cannot be generalized to the entire population of students in Agricultural Education programs who are Academically or Intellectually Gifted.

Summary

Academically or Intellectually Gifted (AIG) students were first officially identified in North Carolina schools in 1961 when the first legislation governing gifted education was passed. Today, Article 9B of the North Carolina General Statutes (NCGS) defines AIG students as those who “...perform or show the potential to perform at substantially high levels of accomplishment when compared with others of their age, experience, or environment.” As such, these

students “...require differentiated educational services beyond those ordinarily provided by the regular education program” (1996).

In addition to the implications of the law, a student who is academically gifted can experience cognitive damage if they are not receiving an appropriate level of challenge. In addition to the child’s cognitive abilities, it is also important to consider the affective impact that appropriate education has on a student who is gifted. Gifted learners must have their needs addressed in order to become capable, valuable, effective, and successful contributors to our global society. Yet another cause for concern is the needs of the agriculture industry.

The current trend in the industry is moving away from the need for people skilled in production. Instead, the need within the increasingly complex and technologically advanced industry is for highly skilled, well trained, college graduates (Betts & Newcomb, 1986). Academically or Intellectually gifted students are an ideal group to target to meet some of the demand within the industry (Cannon, Broyles, & Hillison, 2006).

Therefore, if we are able to instill in young, gifted individuals the value and necessity of agriculture, we will have more success in attracting these gifted students to careers in the agriculture industry. Agricultural Education programs offer an avenue for teaching students who are gifted about agriculture and the career opportunities available in a rapidly evolving industry (North Carolina Department of Public Instruction, N.D.).

The purpose of this study is to learn more about what can be done to attract more AIG students to these programs, what agricultural educators are doing to meet the needs of AIG students, and the perceptions that AIG students have of agricultural education programs.

CHAPTER 2

REVIEW OF THE LITERATURE

Theoretical Foundation

The fourteenth of Charles Prosser's sixteen theorems states:

Vocational education will be socially efficient in proportion as in its methods of instruction and its personal relations with learners it takes into consideration the particular characteristics of any particular group which it serves (Prosser & Allen, 1925, p. 207).

Even in 1925, vocational educators understood the importance of differentiated instruction. Differentiated instruction is more than teaching the same material at various rates. It requires going beyond the core curriculum in different ways to respond to the needs of each student (Littky & Allen, 1999). This is what Prosser referred to in his theorem.

Prosser believed that in order for a vocational education program to be truly successful, the teacher must take into consideration the characteristics of the students who are served by the program. After taking these things into consideration, the teacher should adjust the methods of instruction to meet the needs of those students. In doing so, a student with a learning disability would still have the opportunity to reach his full potential even though they learn at a different rate than other students.

Likewise, a student who is AIG needs opportunities to reach his full potential. According to Prosser, ensuring these needs are met is the responsibility of the program, and thereby the leader of the program: the agricultural educator.

Discussion of Related Research

Attracting students to agriculture and agricultural education

Research has found a variety of factors which influence students' decisions to become involved in agriculture and agricultural education. These factors include personal goals, curriculum, teachers, the FFA organization, peer and parental influences, and specialized programs.

Personal goals play a large role in students' choices to participate in agricultural education. In general, students who are gifted choose to become involved in programs that will help them progress toward their career goals (Cannon & Broyles, 2006). They desire to be recognized as the best in their field as they value a sense of achievement (Overby & Broyles, 2008). Therefore they are attracted to opportunities that can help them attain the level of achievement they desire.

Students who are gifted are also more likely to enroll in classes and participate in activities in which they feel they have the opportunity to succeed. Research has shown that a student's learning is impacted by his perceptions of the potential to succeed (American Psychological Association, 1992). Therefore, a student who believes

that it is possible to be successful in a class will be more likely to participate in order to experience that success, learn more, and gain acknowledgements for his accomplishments (American Psychological Association, 1992).

The curriculum within agriculture classrooms may also be attracting students who are gifted. Recent research has shown that changing the emphasis of the agricultural education curriculum to be more scientifically based may help encourage more students who are gifted to enroll in Agricultural Education programs. It is thought that reflecting the scientific nature of the program in the names of the courses may make the course offerings more attractive to students who are gifted. (Shelley-Tolbert, Conroy, & Dailey, 2000).

It is also thought that teachers influence students to enroll in classes. Studies have been conducted to learn more about the qualities of teachers that are desirable for students who are gifted. In order to attract students to their programs, it is thought that teachers must be creative, open, flexible, and care about student growth (Hook, 1993). Similarly a study conducted by Gentry, Hu, Peters, and Rizza in 2008 in a CTE school identified as “exemplary” by the researchers revealed that students who are gifted value teachers who are “...competent, caring instructors with professional experience and expert teaching skills” (p. 192).

Gifted students prefer teachers who are both knowledgeable of their content area as well as expert teachers (Gentry et al., 2008). Mills (2003) found that it is equally important to students who are gifted that their teachers are knowledgeable and

passionate about the subject matter as it is important for them to be competent in teaching methodology.

A teacher's enthusiasm may also impact a student's decision. Enthusiasm has long been thought to be one of the characteristics of effective and desirable teachers (Baum, 2002; Davis, 2009, Rosenshine & Furst, 1971, Winebrenner, 2001). In addition to enthusiasm, the research also suggests that desirable characteristics of teachers also include clarity and variability (Rosenshine & Furst, 1971).

As research has shown that teachers play such an important role in the successful education of students who are gifted, some teacher education programs have implemented pre-service and in-service training for teachers to prepare them to successfully work with students who are gifted. A study out of Queensland, Australia reported that pre-service teachers who attended a six week program on teaching students who are gifted were more confident in their understanding of the needs of the students and their ability to meet those needs (Lewis, Hudson, & Hudson, 2010).

The National FFA Organization (FFA), the youth leadership organization associated with Agricultural Education, is thought to be a natural magnet for students who are AIG. The FFA gives students the opportunity to learn and demonstrate skills and gain valuable experience, all of which can greatly enhance learning for a student who is gifted (Hook, 1993).

Croom and Flowers offer some explanation for this. They found that students chose to become involved in the FFA because the organization fulfills students' need to

feel as though they belong and fit in (Croom & Flowers, 2001). They stated that this finding was supported by Abraham Maslow whose theory included love and belonging as a necessary need which must be met in order to achieve self-actualization (Maslow, 1970).

Students themselves may play an active role in attracting other students who are gifted simply through word of mouth. Students who are challenged and experience success are likely to attract their peers to the program by sharing their experiences (Hook, 1993).

Cannon, Broyles, & Hillison believe that designing programs specifically for students who are gifted is one way of attracting them to agriculture. Virginia, Pennsylvania, and Tennessee have developed summer enrichment programs for students who are gifted that aim to increase their agricultural literacy (Cannon, Broyles, & Hillison, 2006). North Carolina has a similar program sponsored by the North Carolina Farm Bureau. The week long summer programs, called Institute for Future Agricultural Leaders (IFAL), is for rising seniors whose academic rank is in the top third of their high school class (North Carolina Farm Bureau, 2010).

There have also been research findings which indicate factors that influence students who are gifted not to enroll in agricultural education. Some studies have shown that students who are identified as AIG are often discouraged from taking career and technical education (CTE) courses such as Agricultural Education classes and that many teachers believe CTE to be inappropriate for them (Gentry et al., 2008). In one

study, respondents expressed that many administrators believed that agricultural education was not an academic program and that it lacked rigor and therefore students who were gifted were not encouraged to enroll in those classes. (Shelley-Tolbert, Conroy, & Dailey, 2000).

It is also thought that the image of agriculture and agricultural education is sometimes a deterrent for students. A study found that students' perceptions of the image of the FFA organization significantly impacted their decision to join or not to join FFA. The perceptions of students who were not members were not as positive as those of members, indicating that the image of the FFA may be discouraging their participation (Croom & Flowers, 2001). Moore (2011) also addressed the importance of image as he pointed out that teachers are responsible for creating and maintaining the image of their programs for the students, parents, and community members. Without the promotion of a proper image, the programs lack effectiveness (Moore, 2011).

There is also evidence that supports the belief that students who are gifted will often choose not to enroll in classes in which they are not surrounded by their academic peers. It is not an uncommon experience for students who are gifted to feel isolated or misunderstood because of their abilities and personality types (Mills & Parker, 1998). It is thought, that these feelings of isolation could also lead to a decline in the students' motivation (Mills, 2003).

Methods for teaching students who are AIG

It has been determined that students who are gifted require challenging, differentiated curriculum and instruction (Coleman & Gallagher, 1995; Hekimoglu, 2004; Winebrenner, 2001). They need instruction that is developmentally appropriate (Coleman & Gallagher, 1995). One of the ways that this need is being addressed is through modifying the environment in which the AIG students learn.

“Gifted students learn best in a receptive, nonjudgmental, student-centered environment that encourages inquiry and independence, includes a wide variety of materials, provides some physical movement, is generally complex, and connects the school experience with the greater world” (Berger, 1991, p. 3).

While such a classroom would be ideal for most students, Berger states that this environment is crucial to meeting the needs of students who are AIG so that they can reach their full potential. Without modifying the environment, other modifications are ineffectual and without any modifications whatsoever, the student who is AIG is less likely to succeed in the school setting and therefore, the real world.

Revised Bloom’s Taxonomy has been found to be an effective tool for develop appropriately differentiated curriculum (Noble, 2004). Revised Bloom’s taxonomy was originally developed by educational psychologist, Benjamin Bloom (Anderson et al., 2001). In the 1990’s, Anderson et al. revised the taxonomy so it would accurately reflect

newly discovered research in educational psychology (2001). The taxonomy is often represented visually as a triangle with the most basic level of learning at the very bottom. Moving up the triangle, the levels of learning become more complex and indicate higher order thinking skills and greater mastery for the learner: beginning with remembering at the lowest level, understanding, applying, analyzing, evaluating, and, the highest level, creating (Anderson et al., 2001).

The literature indicates a variety of best practices for differentiating curriculum for students who are gifted. These practices include: acceleration, compaction, independent study, hands-on learning, integrating technology, offering choices, setting high expectations, creating opportunities for creativity and problem solving, capitalizing on student's interests, and cooperative learning.

According to Coleman and Gallagher (1995), "...children who are gifted learn at a faster rate than other children their age" (p.32). Because of this they say that students who are gifted have to ability to move through curriculum at a rate that is also faster and more appropriate for them developmentally. A method commonly used to address this is acceleration. Acceleration can refer to student acceleration or content acceleration. Student acceleration involves moving "...gifted students through the system faster" (Gallagher & Gallagher, 1994, p.371). For example, a highly proficient student may be allowed to skip a grade in school. Content acceleration on the other hand is a simple modification that allows students to complete work that matches their ability level rather than their age. Therefore, a student in the fifth grade might be

challenged with algebra instead of the usual fifth grade curriculum (Gallagher & Gallagher, 1994).

Freeman (1999) indicates that the effectiveness of acceleration depends on the environment in which it takes place. Flexibility of the programs, the number of students learning through the accelerated curriculum, maturity of the students, and the social and emotional support offered to the students can all factor into the successful implementation of acceleration (Freeman, 1999).

Gentry et al. (2008) examined the effectiveness of content acceleration in action and determined that it allowed the students to work at a pace that was developmentally appropriate for them, which was sometimes faster than other students. They also felt that it allowed the students to continue progressing in their learning because they were able to move on to new tasks and learn in greater depth instead of just trying to reach a stopping point. The researchers noted that the students enjoyed the opportunity to work at a faster pace (Gentry et al., 2008).

Curriculum compacting is another strategy used by teachers to keep students who are gifted engaged in learning. Compacting involves assessing what students already know about the curriculum before beginning instruction and then modifying the curriculum so that the student is not required to complete work that he or she has already mastered (Coil, 2008; Willard-Holt, 2003; Winebrenner, 2001). Then, the student is allowed to complete alternate but related activities that capitalize on the students' strengths and interests and guide them into deeper levels of learning (Coil,

2008). Winebrenner (2001) asserts that this method will help students become more engaged, pay closer attention to their work, and motivate them to learn.

Research does warn teachers against using this strategy in excess. Rogers (2002) discussed that too much compacting can cause stress for students which interferes with learning. It is important that students who are gifted are able to balance their academic needs with their emotional and social needs: needs that include time to reflect on their learning and relax mentally (Rogers, 2002).

Independent study is especially used at the secondary level for students who are found to be gifted. Students participating in independent study are guided by a teacher in completing a project related to the subject matter (Gallagher & Gallagher, 1994). This strategy is often used in conjunction with acceleration or compaction. A study conducted in 2008 in a CTE school identified as “exemplary” by the researchers showed that independent study was an effective way for teachers to individualize curriculum for students identified as gifted (Gentry et al., 2008, p. 183.) The findings reported that independent study was effective in large part because it allowed teachers to capitalize on the interests and strengths of the students (Gentry et al., 2008).

Research shows that it is important that students who are gifted have opportunities to work and learn with other students who are also gifted. They need opportunities to interact with people who learn, socialize, and develop in similar ways (Coleman & Gallagher, 1995). Winebrenner (2001) states that unless students who are gifted are allowed to work together for at least some portion of the day, their long term

achievement may be negatively affected. Research reviewed by Reis (2008) yielded findings that grouping students who are gifted was beneficial for their achievement as well as that of students who were achieving at average and below average levels.

Gentry, Hu, Peters, and Rizza found that effective teachers of gifted students provide opportunities for hands on learning (2008). In another report on this study, Gentry, Peters, & Mann explored the students' beliefs that learning in a hands on environment helped them connect what they were learning in the classroom to a real world career (2007). They felt that being able to make this connection made their learning more meaningful than in other classes which did not offer opportunities for hands on learning (Gentry, Peters, & Mann, 2007).

Integrating technology into the curriculum for students who are gifted has been shown to increase literacy across various disciplines (Siegle, 2005). It is thought that the natural learning preferences of students who are gifted are highly compatible with the skills required for technology literacy (Siegle, 2005). Gentry, Hu, Peters, and Rizza (2008) found that the students who were gifted appreciated and benefited from integrating technology with their curriculum.

Presenting students who are gifted with choices in their learning is also key in helping them learn at deeper more comprehensive levels. For example, Kolb asserted that the freedom students enjoyed in choosing SAE projects within their personal areas of interest is important because it allows the teacher to capitalize on that interest and deliver content that will be more relevant to the learner (Baker & Robinson, 2011).

Davis (2009) recommends creating activities and assignments which connect the content with the students' interests as a means of motivating students. She also believes that allowing students choices in what and how they learn can be highly motivational (Davis, 2009).

Gentry et al. (2008) also found that offering choices to students who are gifted is helpful in teaching them to make decisions that will serve their individual needs and best interests.

Setting high expectations has a significant impact on a student's motivation and performance in class (Davis, 2009). Gifted students tend to excel when they know their teachers are aware of their high ability levels and hold them to higher expectations because of them. High expectations, along with continuous encouragement from teachers, challenged the students to work hard to set and reach their goals (Gentry et al., 2008).

Practitioners in the field report that giving students opportunities to be creative and use problem solving skills is enriching for students who are AIG (Hook 1993). Many gifted students are naturally abstract and creative thinkers and will benefit when their creativity is nurtured (Winebrenner, 2001).

In addition to techniques used within the classroom, there are also a variety of opportunities for students who are gifted outside the agriculture classroom. Students who participated in Career Development Events (CDE's) through the FFA organization and competitions through related youth organizations reported that competing helped them to develop their skills and talents and encouraged them to want to excel. They

also appreciated the opportunities to develop leadership skills, friendships and gain recognition. (Gentry et al., 2008)

Mentorships or apprenticeships are also useful in serving students who are AIG. In their study, Gentry et al. (2008) found that these experiences provide opportunities for genuine learning and allow students to make connections between the classroom and the real world. In Agricultural Education, mentorship takes the form of the Supervised Agriculture Experience (SAE).

Recent research has found that the three component design of Agricultural Education, which in addition to classroom instruction includes the FFA organization and the SAE program, is a highly effective instructional model. Baker and Robinson (2011) asked Dr. David Kolb, a leading expert on learning theory, to examine the learning model and found that it aligns seamlessly with his experiential learning theory. According to Baker and Robinson, Kolb's theory consists of six propositions which give rise to his Model of Experiential Learning. This model represents a four step cycle which, upon completion, results in real and meaningful learning (Baker & Robinson, 2011).

Upon examining the model, Kolb was able to identify all four components of his model within each component of the Agricultural Education model as well as the three cooperative components as a whole. The study concluded that the instructional model is highly effective, making Agricultural Education naturally responsive to the needs of all learners.

Practitioners also believe that the educational model that guides Agricultural Education is the best model of education available. In 2008, the September/October issue of the Agricultural Education Magazine focused on determining if the model was the best approach to education. The articles, submitted by agriculture teachers as well as teacher educators all voiced one resounding belief: "Agricultural Education IS the Premier Educational Delivery Model" (The Agricultural Education Magazine, 2008, p. 12).

Perceptions of students who are AIG

A study conducted among high ability students in 1986 revealed that the individuals perceived agriculture as technical and "science-oriented" but they did not consider it to be "high-tech" and socially connected (Betts & Newcomb, p.15). This same study reported that the students' perceptions of careers in agriculture were very unclear as they had a limited understanding as to what careers were agriculturally related. In general, these students lacked knowledge of the agriculture industry which would allow them to form accurate perceptions of agriculture and agricultural studies. Students who are gifted do not consider pursuing studies in agriculture because they have a "...lack of knowledge about agriculture (Betts & Newcomb, 1986. p. 15).

In a 2008 study conducted by Overbay and Broyles, similar results were found. In this study, students who were attending an agricultural summer enrichment program for students who are gifted were assessed based on their values and

perceptions. The majority of the students had a very limited and narrow perception of careers in agriculture. Many of the gifted students reported that they considered agriculture an industry that did not provide financial security and required strenuous labor. In addition, many of them had conflicting ideas about what qualified as a career in agriculture. It was also noted that nearly 70 percent of the students were gifted students who had no idea what FFA was or that it even existed (Overbay & Broyles, 2008).

Both of these studies align closely with the findings of the 1988 report of the National Research Council, *Understanding agriculture: New directions for education*. In the findings it was concluded that in general Americans had very little understanding of agriculture: its extent, careers, and increasingly scientific nature. Among the report's findings were recommendations to expose students at all ages to some form of Agricultural education and to refocus agricultural education to reflect "...the reality within agriculture" (National Research Council, 1988, p. 2).

Summary

Even in 1925, vocational educators understood the importance of differentiated instruction. In his 16 theorems, Prosser recognized the need to differentiate instruction for all students and all levels of ability.

A review of the literature for this study focused on four areas: what attracts students who are gifted to programs, what deters students who are gifted from

programs, what teaching methods students who are gifted desire, and how students who are gifted perceive agricultural education courses.

CHAPTER 3

METHODOLOGY

Research Design

This study was conducted qualitatively through the use of focus groups. Focus groups have been defined as “an interview style designed for small groups” where a particular topic is discussed (Berg, 2007, p. 144). Research has shown that focus groups are an effective way to gather information from program stakeholders to better understand their needs (Duncan and Marotz-Braden, 1999). Focus groups allow participants to brainstorm and draw from one another’s responses and therefore allow for more ideas and topics to be discussed and more potential solutions to be produced (Berg, 2004). One of the strengths of focus groups is that participants are able to build off of one another’s responses to enhance the depth of the conversation and the responses (Berg, 2004, Krueger & Casey, 2009).

Due to the limited amount of information about students who are Academically or Intellectually gifted who are in Agricultural Education programs, it was determined that focus groups would provide an insightful depiction of the current experiences and needs of these learners.

Population and Sample

As of April 1, 2010, the North Carolina Department of Public Instruction reported that there were 169,087 students in North Carolina Public Schools classified as AIG (2010). However, recent statistics do not differentiate based on grade level or courses taken. Therefore, determining the number of students in the population of AIG students taking Agricultural Education courses was not possible.

Because of this, the researcher decided to utilize a purposive sampling procedure. The regional coordinators for Agricultural Education in North Carolina as well as the state program leader were contacted. Each was asked to recommend, based on his expert opinion and knowledge, three to five high quality agricultural education programs in each of their respective regions that likely had students who were AIG. The coordinators considered programs to be high quality based on the number of students enrolled, percent of FFA membership, their participation in regional and statewide FFA events, and the presence of SAE programs.

Once these programs had been recommended, the agriculture teachers in each of the programs were contacted to determine the number of students who were AIG and who were also participating in the program. In order to be selected to participate in this study, the teachers had to report that they had five to 10 students in grades nine through 12 who were officially classified by their Local Education Agency (LEA) as Academically or Intellectually Gifted as defined by Article 9B. This number of students met the recommendations from Krueger & Casey (2009) who indicated that focus

groups should be composed of four to 12 individuals. These students could have been participants in the program in past or current semesters. The researcher made the decision to select one school in each of the eight Agricultural Education regions in the state. The identity of the schools that participated in the study cannot be released in order to remain compliant with IRB requirements.

Once it was determined that a school had the appropriate number of students with whom a focus group could be conducted, the teacher was asked to obtain permission from the administration and coordinate a time and meeting place convenient for the students, teachers, and administrators. The teachers who responded were then sent a consent form which explained the study and required the signature of a parent or guardian of each participant. They were asked to distribute one form to each student and request that students who wished to participate bring the signed form with them to school on the day of the focus group.

Of the eight schools which participated in the study, one had only a one teacher agriculture department. Five schools had two agriculture teachers and two schools had a three teacher department. The school sizes, as classified by the North Carolina High School Athletic Association, ranged from 1A to 4A. However, the majority of the schools were classified as 2A or 3A. Average daily membership of the individual schools was not reported to protect the identity of the schools and students who participated. Six of the schools were located in counties recognized as rural by the North Carolina Rural Economic Development Center. This classification indicates that these counties have a

population density of less than 250 people per square mile. The prevalence of schools in rural counties in the study reflects that the majority of the state of North Carolina, 85 out of 100 counties, is considered rural.

Table 1

Description of Schools which Participated in Focus Groups

| School | No. of Agriculture Teachers | Average Daily Membership ^a | Population Density of County ^b |
|--------|-----------------------------|---------------------------------------|---|
| A | 2 | 3A | Rural |
| B | 3 | 3A | Urban |
| C | 2 | 1A | Rural |
| D | 1 | 4A | Urban |
| E | 3 | 3A | Rural |
| F | 2 | 2A | Rural |
| G | 2 | 2A | Rural |
| H | 2 | 2A | Rural |

^aAverage Daily Membership is reported as classified by the North Carolina High School Athletic Association (2010).

^bPopulation density reported by the North Carolina Rural Economic Development Center (2000).

On the day of the interview, prior to the beginning of the interview process, the students were given a survey to collect additional information about the students including grade level, course schedule, grade point average, standardized test scores, and career interests. Providing this information was entirely voluntary for the students.

Each focus group consisted of between seven and 12 students who were active in agricultural education programs and identified by their Local Education Agency (LEA) as Academically or Intellectually Gifted. A total of 75 students participated in the

focus groups. Of these students 28 percent were freshmen, 15 percent were sophomores, 32 percent were juniors, and 25 percent were seniors in high school. The students self reported an average weighted grade point average of 4.03, ranging from 2.70 to 4.96. They also reported an average SAT score of 1789, with scores ranging from 1430 to 2120 out of 2400. Grade point averages and test scores that reflect low academic performance and achievement may indicate that the students who are gifted are underachieving, a problem common among students who are gifted (Winebrenner, 2001). All of the students who participated were enrolled in at least one Honors, Advanced Placement (AP) or International Baccalaureate (IB) level course and some were taking college level classes through dual enrollment programs.

In reference to career interests, 35 percent of the students reported they were planning to pursue a career in agriculture while 30 percent said they planned on pursuing other fields. The remaining 35 percent of the students reported that they were unsure of their career path but that a career in agriculture might be possible for them.

Instrumentation

It was determined that the focus groups would be facilitated through the use of semi-standardized interviews. This type of interview involves the use of a set of predetermined questions but allows the interviewer to “probe far beyond the answers to their prepared standardized questions” (Berg, 2004, p. 81). This approach to interviews allows the researcher to modify the language of scheduled questions to

make them more relevant to the stakeholders and their perspectives (Berg, 2004). To further gain insight into these perspectives, this method allows the interviewer to utilize unscheduled probes that “arise from the interview process itself” (Berg, 2004).

A set of questions to be asked during the focus group interview was developed. These questions were written in such a way that they allowed for open ended responses from the participants of the group. The questions were asked one at a time by the researcher. Each participant was given the opportunity to answer and discuss the questions with the other members of the focus group. In anticipation that the answers the students gave did not thoroughly answer the question, general probes were also developed.

The questions were evaluated for quality by expert review and by implementing the instrument in a field test. The panel of experts included four faculty members within the Department of Agricultural and Extension Education at North Carolina State University. This helped to ensure that the questions were clear and relevant to the objectives of the study and that they elicited descriptive and comprehensive answers from the participants.

The instrument was pilot tested in the Fall of 2010 to further improve the questions. The pilot took place at a high school agriculture program with students classified as gifted by their LEA.

As the focus groups were conducted, the questions were clarified by improving the wording of questions as needed and utilizing unscheduled probes to encourage

conversation as recommended by Berg (2004). The meanings of the predetermined questions were not altered and none of these questions were removed from the instrument during the process. The interview schedule can be found in Appendix A.

The interview schedule also included introductory activities as recommended by Berg (2004) to help the students feel more comfortable and to build rapport between the students and the researcher. During this portion of the interview, the students were asked to introduce themselves and share with the group their general experiences from the time they were identified as AIG until the present. The researcher also shared during this time to help build rapport. This portion of the interview was not recorded and was not analyzed as a part of the data.

Data Collection

The focus groups were conducted in Fall of 2010 and Spring of 2011. The sessions took place in private rooms within the schools and required about one hour for completion. Only the researcher and the students were allowed in the room during the session. The sessions were recorded using a digital audio recorder. Notes were also taken during the session by the researcher.

Analysis of the Data

The audio recordings were transcribed excluding only filler words used by the speakers. Then a deductive qualitative content analysis was conducted on the

transcripts. In qualitative content analysis, categories may be developed inductively, deductively, or using both forms of reasoning (Berg, 2004; Strauss, 1987). A list of themes was developed from the concepts and theories discovered in the review of literature. Statements which did not reflect any of the deductively developed themes were coded with themes which were developed inductively.

The coder used each individual statement as the unit of analysis. Each statement was analyzed for the presence of the themes. Once all of the transcripts were coded, the themes were counted (Berg, 2004) and those which appeared most frequently were noted. As relationships between the themes of each unit were identified, the related units were organized into categories and then discussed (Berg, 2004). The transcripts were analyzed throughout the data collection process (Lincoln & Guba, 1985).

Trustworthiness

According to Lincoln and Guba (1985), trustworthiness of qualitative research is established based on four criteria: credibility, transferability, dependability, and confirmability.

To establish credibility, a peer debriefing was conducted, as recommended by Lincoln and Guba (1985) to confirm interpretations and coding decisions and eliminate the researcher bias. In addition, member checking, which is considered to be the most important method of improving credibility of qualitative research (Lincoln & Guba, 1985), was performed in three ways throughout the research process. First, in the pilot

focus group, the researcher discussed the questions with the participants at the conclusion of the focus group. Secondly, during the formal focus group interviews, the researcher presented thoughts discussed back to the participants to improve, rephrase, and interpret the thoughts more thoroughly. Finally, after the collection and analysis of the data was completed, an informal session was held with a group of students who participated in the study to give them the opportunity to provide feedback on the findings and evaluate the accuracy of the findings.

Transferability was established by the inclusion of as much detail about the schools and students involved in the study as possible while still protecting the identities of both. The inclusion of such thick detail "...makes transferability judgments possible on the part of potential appliers" (Lincoln & Guba, 1985, p. 316). This detail includes information about the environments of the schools and Agricultural Education programs, descriptions of the students as related to their academic achievements and career interests, and direct quotes from the focus groups.

For the purposes of establishing dependability and confirmability, the researcher retained possession of the raw data collected in this study. The audio recordings, hard copies of the transcripts and lists of themes and categories developed were kept on file.

Summary

This study was conducted qualitatively through the use of focus groups. One focus group was conducted in each of the eight preexisting agricultural education regions in North Carolina. The three regional Agricultural Education coordinators for North Carolina as well as the State Leader for Agricultural Education were contacted and asked to recommend high quality programs in which students who were AIG might be found. Then, the agriculture teachers in each of the recommended programs were contacted to determine the number of AIG students participating in the program. The teacher was asked to obtain permission from the administration and coordinate a time and meeting place.

A set of questions to be asked during the focus group interview was developed. The questions were evaluated for quality by expert review and by implementing the instrument in a field test.

The focus groups took place in private rooms within the schools and required about one hour for completion. The audio recordings were transcribed excluding only filler words used by the speakers. A content analysis was then conducted as the transcribed responses were coded by identifying themes in each individual response to the questions posed.

CHAPTER 4

FINDINGS

The purpose of this study was to learn more about what influences the decisions of students who are Academically or Intellectually gifted to participate in Agricultural Education programs, what factors contribute to successful learning for students who are AIG in agriculture classes, and the perceptions that AIG students have of agricultural education programs. By doing so, not only will the students be better served, they will also be better prepared to use their academic and intellectual gifts for the benefit of the food and fiber system that supports our state, our country, and our world.

The study set out to answer the following research questions:

1. What attracts students who are Academically or Intellectually Gifted to Agricultural Education courses?
2. What deters students who are Academically or Intellectually Gifted from Agricultural Education Courses?
3. What factors contribute to successful learning for students in Agricultural Education programs who are Academically or Intellectually Gifted?
4. How do students who are Academically or Intellectually Gifted perceive agriculture courses?

The data were gathered qualitatively through the use of focus groups. Eight focus groups were conducted: one in each of the regions of the North Carolina FFA Association. The focus groups were conducted in the Fall of 2010 and Winter of 2011. Each group consisted of between seven and 12 students who were active in agricultural education programs and identified by their Local Education Agency (LEA) as Academically or Intellectually Gifted.

During the focus groups, the students were asked a series of predetermined questions designed to create discussion among the participants and find answers to the questions posed in this study. The focus groups were recorded on a digital audio recorder and then transcribed. The transcripts then underwent a qualitative content analysis in which themes were identified in each of the responses from each student. The most common themes which occurred reflected answers to the research questions.

Research Question #1: *What attracts students who are AIG to agricultural education courses?*

To gain answers to these research questions, the participants of the focus groups were asked the following questions:

1. What made you decide to take an Agriculture class?
2. Tell me about the pros and cons of your Agriculture classes?
3. What would make more gifted students want to take Agriculture classes?

In answering these questions, the participants from across the state revealed several common themes. The responses fell into five categories:

1. Atmosphere of the classes
2. Design of Agricultural Education
3. Influential people
4. Personal motivation
5. Real life value of knowledge

Atmosphere of the classes

The majority of the responses the students gave indicated that they were attracted to agriculture classes because of the atmosphere of the classes. Students felt that the classes were more relaxing than their other classes and the environment of the classroom was fun because of the variety of activities and the opportunities for hands-on learning.

Many students made reference to how relaxing the classes were compared to their other classes. One participant repeatedly called her agriculture class "...a breath of fresh air..." because it allowed for a break in the day from working in a desk and stressing out about standardized testing. Another student stated that this relaxed environment made his agriculture class "...a class that you look forward to going to because it's going to be different." Students in each group agreed that the less stressful

nature of their agriculture courses not only allowed them to be successful in the class but also helped them to be successful in their other classes. One participant said, “You don’t need to take four honors classes a day. That’s just too much on somebody.” The students felt that by having the opportunity to participate in an agriculture class they were better able to handle the rigorous academic pressure they were under in their other classes.

Students also stated that they were attracted to agriculture classes because they had a fun atmosphere. Many had been told this by other students or had experienced it for themselves. One student explained, “We still do work [in our agriculture classes] but it’s *fun* work.” A major factor that students believed to contribute to the fun atmosphere was the variety of activities in which they were able to participate as a part of the class.

Students cited a variety of activities that they felt made the class fun. Such activities included field trips to area farms and to the State Fair, working in the greenhouse, participating in games and projects to learn, and competing in Career Development Events. One student explained and her group agreed unanimously: “Each day is new. Each day, you’re not going through the same routine. It’s nice and it’s fun and it’s engaging at the same time.” These thoughts were echoed by a student in another group. “You might be in the greenhouse one day and on the nature trail the next and welding the next.”

Though the students reported that they chose to enroll in the class because of its relaxing environment, they all agreed that the classes still had an element of challenge.

The participants felt they were challenged when they were being taught skills they needed to be able to perform, such as welding. Many also experienced challenge because they lacked prior knowledge of agriculture when they entered the classes. One student said of the classes, “Some things are a lot harder and you have to really think about it.”

Design of Agricultural Education

In addition to the atmosphere of the classes, the students indicated that the design of Agricultural Education also attracted them to the classes. As previously discussed in Chapter 2, Agricultural Education programs consist of three equally important components: the classroom, FFA, and SAE.

Overwhelmingly, students agreed that the hands-on nature of the curriculum in the classroom was the most attractive aspect of the classes. Students voiced that rather than “...sitting in the classroom all the time...” and “...taking a whole lot of notes...” they much preferred the hands-on learning that takes place in an agriculture class. Hands-on activities were mentioned in all of the groups as a factor that led these students who are gifted to make the decision to take an agriculture class.

The students felt that hands-on learning made it easier for them to learn new information and skills. They also felt that it allowed them to better remember the things they had learned because they had been able to use what they had learned in class. One student gave an account of an instance when she was able to remember what she had

learned in class to help her solve a problem while at work at a veterinary office. Another student summarized this aspect very simply: “Instead of learning from a book, you learn from what you do. And it sticks.”

The FFA was also a major contributing factor in students’ decisions to take an agriculture class. Students felt that “...getting involved is fun...” and that the FFA gave them the opportunity to “...learn and socialize outside the class.” Many of the groups agreed that Career Development Events (CDE’s) through the FFA were a major attraction to the program. One student stated that he chose to take an agriculture class because “...we have to take an Ag class to compete.”

Students also stated that they wanted to be involved in the FFA because their involvement in the intra-curricular leadership organization would look good on a college application. In addition to this, some students cited that they liked the recognition they could receive through the FFA for competing in CDE’s and earning degrees, such as the State and American degrees, through the organization. As these opportunities would not be available to them without being enrolled in an agriculture class, the FFA weighed heavily on many students decisions to take an agriculture class.

The third and final component of the Agricultural Education program, SAE, was also mentioned by the students as a reason they were attracted to agriculture courses. Many students mentioned that they enjoyed the project because they had the freedom to choose to do something they loved and they could work at their own pace. As one student said, “If you pick something you enjoy doing, the hours just fly by.”

Students also made mention of the fact that their SAE program not only gave them experience outside of the classroom, it also helped them in achieving their career goals. One student's placement SAE experience turned into a steady, part-time job at a local agri-business. While another student's SAE project working at a veterinary hospital gave her experience that she believed helped her gain acceptance into the Animal Science degree program at NC State. Students who wanted to achieve in FFA also appreciated the SAE projects because the hours they logged for their projects allowed them to achieve the degrees, proficiency awards, and recognition they desired.

Influential people

Participants in the focus groups reported that they were also attracted to agriculture classes because of a variety of influential people in their lives. The students commonly mentioned their agriculture teachers, friends and family members, and the guidance and administrative staff at their schools.

The most commonly named of these individuals was the teacher of the agriculture classes. Most of the students commented that they had signed up for the class because they had previously had positive experiences with the teacher or they had heard positive things about the teacher from other students. The majority of the students agreed that the teacher was a major factor in their decision to continue taking agriculture courses throughout their high school careers.

The students named a variety of desirable characteristics which they felt their agriculture teachers possessed and which encouraged them to enroll in agriculture classes. One student shared that he signed up for the classes because he knew that, "...the teachers are very nice and they really care about the kids." Genuine care seemed to be a trait that students valued in their teachers. Students also mentioned that they appreciated teachers who used humor in their teaching, were enthusiastic, and knowledgeable and passionate about the subject matter.

The participants also recognized their friends and family members as people who influenced their decision to take an agriculture class. Many students referenced enrolling in the class because "...my friend told me it was fun..." or because "...my brother was in FFA when he was in high school." On a few occasions, parents and grandparents who were alumni of agriculture programs encouraged the students to partake in the program as well.

Indirectly, school administrators and guidance counselors also played in role in the students' enrollment in agriculture classes through scheduling. "To be honest, it was the only thing that would fit in my schedule," one student remembered. Similar accounts were given in every focus group. Other students did not have the choice to enroll in an agriculture class but instead were placed in the class by a school administrator. "They actually just put me in the class..." one student said. "But once I got into it... it just stuck." Though these students did not choose to take an agriculture class, they all continued to take agriculture classes.

Personal motivation

The students interviewed also gave several examples of personal motivation that drove them to enroll in agriculture courses. Some simply liked agriculture while others had prior experience with it. The students also discussed that they felt there was potential for them to experience success in agriculture classes.

One of the most prevalent examples of personal motivation to take agriculture classes was the students own personal interest in agriculture. Many students reported that they enjoyed various aspects of agriculture, such as working with animals, welding, and growing plants. Though in some cases these were aspects that the students wished to channel into careers, in many cases these were more like hobbies which the students enjoyed. Therefore, being in an agriculture class gave these students what they considered to be a rare opportunity to do something they truly enjoyed during the school day. One student said that he enrolled in the class simply because "...that's what I love." Other students gave similar accounts saying "I enrolled in animal science because I love animals..." and "I like to grow plants... it's cool."

In addition to personal interests, prior experience was also a major attraction. Many of the students were raised in environments in which agriculture was present. For example, many students reported that they were "...raised on a farm..." or that they had family members working in some facet of the agriculture industry such as the nursery industry, dairy production, and various agri-business operations. This early

exposure to agriculture encouraged some of the personal interest that the students expressed making agriculture classes highly attractive to these students.

Perhaps one of the reasons that prior experience made the classes so attractive was because it gave the students the opportunity to take a class in which they knew they could succeed. As one student put it, "It was a class I knew I could take that I actually understood before I got into it. It was something that I could pass at." Another student took this aspect of the classes one step further and said,

"You have it built into you to work hard in every class. So you know that if you work hard in agriculture classes too and you can actually step ahead of everybody else and be able to shine in those classes.... It feels good."

Many students indicated that they enjoyed being in a class in which they did not have to worry about the threat of failure. In one group the students said, "It's not like a math test where you have one shot and you pass or fail. If I mess up, I can just go back and re-try it in a different way instead of just quitting because I know I've already failed."

Though the students indicated that they enjoyed the class because they knew they had the potential to do well, they did not at all agree that this was because the classes were not challenging. Many students agreed that it was simply "...a different kind of learning..." than their other classes, referencing the hands-on nature of

agriculture courses as compared to what some called the “...sit in a desk for 90 minutes kind of class.” The majority of the students agreed that this hands-on means of learning was more challenging and engaging simply because it was different from what they were used to.

Real life value of knowledge

The last factor that the students reported as an attractive factor for the courses was ability to make real life applications of the material. For the students this meant a variety of applications including career goals, real life experiences, and the attainment of life skills.

Some students shared that they enrolled in agriculture classes because the education they received directly aligned with their career goals. One student said she enrolled in horticulture because, “...it’s what I want to do when I grow up.” Another student said, “I’ve had my heart set on being a vet for the longest time so I wanted to take animal science.” Students in an agricultural mechanics class agreed that the classes were helpful in reaching their career goals. They said, “You come out [of the class] with a trade and in today’s economy, that’s a big deal.”

Students also found it attracting that their Agricultural Education program offered them opportunities to gain real life experience. One student commented that “It’s something that you can use, whatever you do in life.” Many students believed that they were able to gain skills through their SAE projects that they could actually use in

their lives and careers. This included learning to keep records, time management, and people skills. They also appreciated the opportunities to gain skills by participating in Career Development Events through FFA. Students stated that by participating in these competitive events they were able to improve their public speaking skills, enhance their leadership abilities, further develop their skills in welding, and make more informed decisions about their career goals. The experiences these students felt they gained through their involvement in agriculture classes played an active role in their decision to continuing enrolling in the classes.

Research Question #2: *What deters students who are AIG from Agricultural Education Courses?*

The answers to this research question were obtained using the same questions posed to answer Research Question 1. The participants of the focus groups were asked the following questions:

1. What made you decide to take an Ag class?
2. Tell me about the pros and cons of your Ag classes?
3. What would make more gifted students want to take Ag classes?

In answering these questions, the participants from across the state revealed several common themes. The responses fell into four categories:

1. Lack of accurate information
2. Academic pressure
3. Scheduling
4. Attitudes of classmates

Lack of accurate information

The students interviewed felt that one of the most common reasons that students who are AIG do not enroll in agriculture classes was because they lacked accurate information about the classes. The students believed that many students were either unaware that the classes existed and knew very little about the program and agriculture. The students also felt that many students held a very inaccurate image of the classes and agriculture.

When the focus group participants were asked “What would make more gifted students want to take agriculture classes?” the most common answer in each group was the same: “Kids just don’t know.” The groups felt that other students who are gifted simply lacked the awareness of the classes. One student, who had been placed in the class because of a scheduling issue, said, “I had no idea these classes were even here... I didn’t learn about them until I was in the ninth grade.” Students from all of the groups mentioned that they saw this as an issue within their schools. Most of the groups felt that this could be improved by the students and teachers working together to inform other students about their options to enroll in agriculture courses.

The students also believed that some students who were aware of agriculture classes had a very limited amount of knowledge about the classes. Many students mentioned that students outside of agriculture classes had very little, if any, understanding of the classes. One student believed that the decision to enroll in an agriculture class might be different “...if they only knew what we really did here and how much it can help them.”

In some cases, the participants in the focus groups felt that the lack of understanding was not limited to agriculture classes, but that it expanded to encompass the students’ understanding of agriculture as an industry. In many groups, the students discussed the misconception that agriculture today is “...just farming.” “If people understood a broader view of [agriculture] you might get more people interested.”

The students interviewed also felt that the image of agriculture classes, and especially the FFA, deterred many students who are AIG from becoming involved. Students in each of the groups discussed struggling with the image that members of the FFA were “...a bunch of white people that get together and farm... that’s definitely not true.” As one student said, “[Students who are AIG] think that being in FFA means you’re going to be a farmer.” The students thought that this inaccurate image of their programs kept other students from recognizing the benefits which the programs offered: scholarships, leadership skills, and life experience. In response to this, one student said, “We need to get away from the ‘cow, sow, plow’ stereotype and get into the future.”

Academic pressure

The students also discussed that the academic pressure that students are under in today's education system prevents many students from enrolling in agriculture classes. This pressure takes the form of concerns about grade point averages and scholar's recognition programs.

In almost every focus group the students reported that some students chose not to take agriculture classes because it was not offered at an advanced level. In classes that are offered at an advanced level, students have the opportunity to earn additional quality points. As this is not an opportunity offered in most agriculture classes, some students shy away from them. One student explained, "They think they need the weighted credit because they want to go to college." In some cases, GPA was not as much of a factor as the apparent academic rigor of the courses. "[Agriculture] is a good class to be in but it doesn't look as good on a résumé as honors psychology..." one student believed.

In several of the groups, students also mentioned that receiving academic honors also kept students from enrolling in the classes. Many schools utilize county and state scholars programs, such as the North Carolina Scholars Program, to recognize high achieving students. These programs outline courses that students must take if they wish to be recognized and acknowledged by the program. Students who enroll and achieve in the classes deemed necessary by the program receive special recognition upon graduation from high school. However, in most of these programs, agriculture

courses are not included in the required courses. In addition, students lack the time in their schedules to be able to enroll in agriculture courses and still complete the scholars' programs requirements. Therefore, students who desire recognition through these programs choose not to enroll in agriculture classes.

Scheduling

Just as scheduling plays a role in bringing students into agriculture classes, it also plays a role in preventing students who are gifted from enrolling. According to the students, the time periods during which agriculture classes are taught often conflict with time periods when the students' core, required courses are offered. One student said simply, "Some people don't take it because it doesn't fit in their schedule." Many students who were interviewed discussed their difficulty in scheduling agriculture classes around their other advanced courses.

Attitudes of classmates

In each focus group, the students addressed the attitudes of some of the other students enrolled in the class as a factor that discouraged students who are gifted from taking agriculture classes. The students believed that often there are students who are "...dumped..." into agriculture classes or who are only taking the class because they think it will not require a tremendous effort on their part. "There are just so many people who are in there because they think it's going to be an easy class," one student

said. “A lot of people take it because they think it’s a throw away class that they can just pass and not really care.” It is this careless attitude that the students who were interviewed thought discouraged students who are gifted from taking the classes. The students discussed how these attitudes made the class “...disruptive...” for them. “It hinders our learning.”

Research Question #3: *What factors contribute to successful learning for students in Agricultural Education programs who are Academically or Intellectually Gifted?*

To gain answers to these research questions, the participants of the focus groups were asked the following questions:

1. Think back to the last time you felt that you really learned something new and enjoyed it. What did you learn and how did you learn it?
2. What does your teacher do to make learning in your Ag classes more enjoyable and engaging for you?

In answering these questions, the participants from across the state revealed several common themes. The responses fell into four categories:

1. “Learning by Doing”
2. Teaching methods
3. Characteristics of the teacher
4. Integrating the subject matter

“Learning by Doing”

The students interviewed in the focus groups reported that the factor that most contributed to learning successfully was the opportunity to learn in a hands-on environment: opportunities to “learn by doing.” Students felt that by experiencing new material first hand they were able to learn it better and remember what they learned longer. Hands-on learning took many forms that included problem-solving learning and first hand experiences.

The most common way that the students discussed was through problem-solving experiences. Often the students described “...trial-and-error...” types of experiences. “He wants us to think it through and try to figure it out on our own...” one student explained. In many cases, these types of experiences occurred in independent projects. These projects involved the students attempting to solve some agriculture-related problem under the guidance of their agriculture teacher.

Students felt they also learned best when their teacher presented them with hands-on opportunities through field trips and other direct involvement with what the students called “...the real thing.” The students gave accounts of field trips to local beef cattle farms, dairy farms, greenhouses and nurseries, and supermarket meat departments. The students explained that these trips helped to solidify what they had learned in class because they were able to “...relate agriculture [class] to real life.” Students also reported that their teachers were able to bring many real life experiences

to the classroom. For example, one group had been given the opportunity to dissect chickens in Animal Science to help them in understanding the anatomy of poultry.

Teaching methods

The next most common factors that students discussed in the focus groups were teaching methods used by the agriculture teachers. These methods included discussion, repetition, and demonstration. The most frequently mentioned of these techniques was the incorporation of discussion in class. One student stated that she learned best in classes “...where [the teachers] openly ask questions that make you think...”

Demonstration was also a key teaching method that the students discussed. Especially when the students were learning to successfully perform new skills, the teacher’s demonstration of the skill was a crucial aspect of the learning experience for the students. Demonstration in conjunction with repetition allowed the students to learn and develop a deeper understanding of the skills and perform them more proficiently.

The students also found their teachers’ use of repetition effective in helping them learn. One student described how her teacher taught her class plant identification:

Every day we would go outside and our teacher would ask us what the plants were, so it was a lot of repetition. I ended up learning about 170 different plants that I still remember today. They are burned into my brain.

Students in each group gave similar accounts of this technique being used to learn various aspects of the curriculum. In some instances, the teacher would require the students to repeatedly perform a newly acquired skill for practice. The students appreciated the opportunity to work toward improving and perfecting the skills.

Characteristics of the teacher

The students overwhelmingly agreed that the characteristics of the agriculture teachers were a major contributing factor in how well they learned. The most commonly mentioned of these were traits that the students found to be entertaining such as humor, spontaneity, and storytelling. Students reported that these traits not only kept them engaged in the class but also helped them to remember what they learned.

Students in each group mentioned that humor was a factor and that it took various forms including impersonations, illustrations, and jokes. One student remembered a field trip during which the teacher stopped the bus spontaneously to give the class a chance to identify the breeds of cattle in a nearby field. "He does what it takes to keep us engaged..." the student explained.

Another student said, "[Our teacher] tells us funny stories that stick in your head. So when we go out to do field work, we remember what he said." Another student

shared a similar experience, “She tells stories that deal with each topic to get it across and I always remember the story.”

Integrating the Subject Matter

Finally, the students conveyed that they learned best when their teachers used activities that integrated the things they were learning with other aspects of education. The students reported that they learned well especially when that they learned in class was carried over into their SAE projects and activities within the FFA. For instance, one student explained that his teacher taught plant identification in class. The student then joined the Nursery Landscape CDE team and competed against other students in identifying plants. Then, he took the knowledge he had gained in class and through the FFA and used it to start a small landscaping and greenhouse business. Many of the students had similar experiences and agreed that they learned better when what they learned in class was reinforced in the two other integral components of agricultural education.

Students also felt that they learned better when the topics in their agriculture courses were somehow integrated with art and technology. The students found using artistic activities to reinforce new information helped them retain information and made learning more fun. Likewise, the students enjoyed opportunities to use computers in class to conduct research and create presentations. A few of the group members also mentioned the use of advanced technology, such as GPS, in the field of agriculture.

Integrating technology also, reportedly, made learning more fun and made a more lasting impression on the students.

Research Question #4: *How do students who are Academically or Intellectually Gifted perceive agriculture courses?*

To gain answers to these research questions, the participants of the focus groups were asked the following questions:

1. How do you feel about your Ag classes?
2. What do you feel your teachers do to try to challenge you?
3. How does the way your Ag teacher teaches you compare with the way he or she teaches other students in your class?

In answering these questions, the participants from across the state revealed several common themes. The students' commonly reoccurring perceptions were grouped into four categories:

1. Positive perceptions overall
2. Balance of challenge
3. "It all starts with the teachers"
4. Areas for improvement

Positive Perceptions Overall

Overall, the students interviewed had highly positive perceptions of their agriculture classes. Their immediate responses when asked how they felt about the classes were resoundingly and unanimously positive. Usually, the students answered the question almost in unison with comments such as, “Awesome...” “It’s something I look forward to...” and “It’s my favorite part of the day.” One student summarized, “It’s something you look forward to because it’s not so stressful. It’s a time to do something you enjoy, not something you’re forced to do.” A student in another group expanded on a similar thought saying that “...everything is a learning experience in Ag.” Many students felt that they genuinely learned better in their agriculture classes than in their other classes because they were learning things that were relevant to real life situations and learning actual skills. These feelings were homogenous across each of the eight focus groups. The majority of the students had a very positive perception of their agriculture class.

Balance of challenge

In each of the groups, the students reported that they felt that the challenge they encountered in their agriculture classes were a refreshing balance. “Sometimes it comes easy, sometimes it doesn’t,” one student said. But most of the students agreed that this balance of challenge made their learning environment less stressful and therefore more conducive to learning.

Many of the groups discussed that the classes were challenging because it was "...a totally different kind of learning..." than what they were used to. Most of the students agreed that learning the information wasn't as challenging as performing the skills they were taught. "This is all problem-solving," one student commented. "You're on your own and doing things yourself and figuring stuff out and then you actually get to do it. Other classes it's all studying and memorizing." The students gave accounts of feeling especially challenged when they were given tasks in which they had to demonstrate what they had learned such as developing and installing a landscape plan in front of their school, building grills to sell as a part of a fundraiser for the chapter, and building shelters to house the school's livestock and poultry. The students felt that because they were given the opportunity to apply their knowledge and skills in a real life situation they felt more challenged because they "...wanted to do it right."

Learning in a hands-on setting provided not only challenge for the students but also the freedom to work at their own pace and to work toward reaching their potential. "In other classes, everyone should pretty much be on the same level," one student remarked, "but in here there are different levels of skill you can achieve." Many students appreciated this because it gave them the chance to stand out among their peers and, as one student put it, "...shine."

Students also discussed that they felt challenged in their courses because their teachers held them to higher expectations. "If you don't do as well as they expect, they get really disappointed... which kind of hurts me more than somebody being mad at

me,” one student explained. “She’ll give you a hard time if you’re not trying hard because she knows you can do better,” said a student. In another group students had similar experiences. “They’re not just pushovers. If we’re out of line she’ll tell us and put us back in our place.”

The challenge the students experienced also extended into their involvement in the FFA. “If you like something you can be on the team,” one student explained. The students agreed that they enjoyed the challenge in the opportunity to compete against their peers with the information they learned.

“It all starts with the teachers”

Another common theme in each of the groups was the idea that the central factor that made their agriculture programs successful was the teacher. The students repeatedly described their teachers as supportive, caring, and understanding. “I think she just understands kids...” one student said of his teacher. He went on to say that she was considerate of the needs and concerns of the students outside of the class which made the environment of the classroom less stressful and more inviting for learning.

The students also felt their programs were successful because their teachers simply cared, not only about the students but also about the subject matter. One student joked, “My teacher would marry agriculture if he could...” and went on to say, more seriously, “He absolutely loves what he’s teaching and I think that’s good... if students don’t think that the teachers care about it, they aren’t going to care about it either.”

Another student agreed saying, "...you want a teacher who would still care about it whether or not they got paid for it. And that's what we have."

But more important than caring about the subject matter was the teachers concern for the students.

"You're not going to want to be in class with a teacher who doesn't care... who's only here because it's their job to be. When their desire is to teach *you* and help *you* and get *you* through all this stuff... that's what makes it work."

Other students commented that their agriculture teachers were "...the most patient teachers..." they had and that they took the time to get to know the students. One student commented, "He knows us on a personal level." Many students in groups across the state agreed with this. "They expect more of us..." one student said, "...not because we're AIG but because they know who we are and what we can do." Simply put, these students believed "it all starts with the teachers."

Areas for improvement

While the majority of the perceptions that the students discussed were very positive, there were some negative experiences which the students felt were areas for improvement.

The attitudes of the students' classmates were discussed once again during this part of the interview. Many of the students discussed again that "...the people who just don't care hold you back." One student explained, "If they're acting immature, the whole class won't get to do something because of those few." "They don't pay attention, they don't write," said a student in another group. "If you take them to the greenhouse they just stand around." One student mentioned that she felt "...like an odd ball..." in her agriculture classes at times. "I'm looked at funny by other students in my agriculture class when I'm studying..." she said. A few other students also had this experience as well. The experiences the students had with their classmates was a point a great frustration for almost all of the students interviewed and for many this was the only factor that contributed to a negative perception at all.

The students also discussed the effects of being in a classroom of students who had mixed abilities. The students felt that this was a challenge for their teachers and that it took away from their opportunities to excel. "It's hard for [our teachers] to challenge us because there are so many other people in the class that maybe can't do it. They have to reach the lowest level first..." one student remarked. A student in another group was in a class with several students who had special needs. "It's tough to teach a class when you've got six special needs kids," she said. In yet another group, the students discussed how being in a classroom with students with mixed abilities often left them bored. "A lot of the AIG students finish quizzes five to ten minutes sooner than the other students. So in that time, it gets boring...."

Summary

In order to learn more about what can be done to attract more AIG students to these programs, what agricultural educators are doing to meet the needs of AIG students, and the perceptions that AIG students have of agricultural education programs, a qualitative study was conducted through the use of focus group interviews.

The study found that the factors that attract students who are gifted to agriculture classes were the atmosphere of the classes, the three-component design of Agricultural Education, influential people, personal interests and the real life value of the knowledge gained in agriculture classes.

The study found that the factors which deterred students from enrolling in agriculture courses were a lack of accurate information, the presence of academic pressure, scheduling, and the attitude of other classmates.

The study found that the factors which most contributed to successful learning for students in agriculture classes who are AIG were hands-on “learning by doing,” teaching methods used by their teachers, the characteristics of their teachers, and integrating the subject matter.

The study found that the perception that students in agricultural courses who are AIG were positive overall. The students also perceived that the teacher was the central most important factor in a successful program and that the level of challenge in agriculture classes was well balanced. There were only a few factors that contributed to

negative perceptions for some, the most prevalent of which was the attitudes of the students' classmates.

CHAPTER 5

CONCLUSIONS

This study set out to answer the following research questions:

1. What attracts students who are Academically or Intellectually Gifted to Agricultural Education courses?
2. What deters students who are Academically or Intellectually Gifted from Agricultural Education Courses?
3. What factors contribute to successful learning for students in Agricultural Education programs who are Academically or Intellectually Gifted?
4. How do students who are Academically or Intellectually Gifted perceive agriculture courses?

The findings presented in this study are based on focus group interviews of students who are AIG in eight agricultural education programs in North Carolina. These programs were chosen for the study because they were recognized by the regional coordinators and the state agricultural education leader as potentially having a number of students who are AIG enrolled. As such, the findings and knowledge gained from this cannot be generalized to all agricultural education programs in the state but might provide clues as to how agricultural education programs can better attract and serve students who are AIG.

In the sections that follow, each finding will be briefly stated followed by a discussion of the implication and conclusions that can be drawn from each finding.

Discussion Related to Research Question #1

The students' responses were grouped into five categories of factors and elements which the students found attractive about agriculture classes. These categories were: the atmosphere of the classes, the design of Agricultural Education, influential people, personal motivation, and real life value of the knowledge.

Atmosphere of the classes

The atmosphere of the classes seemed to be the most highly regarded of the categories. The students felt that they benefited greatly from what they described as a "more relaxing environment" as compared to their other classes. The environment that the students were describing was one without pressure from standardized testing, one in which the students felt they had opportunities to be successful, one in which they felt learning was easier because it was made fun through hands-on learning and a variety of activities.

Though some may perceive a relaxed environment as an indication of a work shy classroom and therefore a downfall, research indicates otherwise. As previously discussed, research has shown that prolonged stress is highly detrimental to an individual's ability to learn. Biologically, the relief from stress protects the brain from

permanent damage, in turn protecting and improving the academic abilities of the individual (Medina, 2008). Therefore, the relaxed atmosphere that the students experience is beneficial biologically and academically.

While a relaxed atmosphere may be perceived by some as an indication that the curriculum and the classes are not challenging, it should be noted that the findings gave no such indication. The students found the classes to be challenging and engaging and even felt they were better able to meet those challenges because of the lack of stress in the classroom.

As such, agriculture teachers should resist the temptation to embrace the teaching model often used by academic teachers which could be characterized as “seat time” and “teacher-centered learning.” While agriculture classes should stress academic achievement, it appears that a more collaborative classroom atmosphere is warranted. It may also be beneficial for academic teachers to find ways to reduce stress for students by emulating the practices of agriculture teachers.

In addition, the inclusion of Agricultural Education courses as a requirement in the NC Standard Course of Study should also be considered. Doing so may help reduce dropout rates as well as improve the performance of students in their core courses, such as English and Math.

Design of Agricultural Education

The three component design of Agricultural Education was also an attractive element for students who are AIG. This design is naturally conducive to learning for students who are AIG. The students in this study felt they learned better because they had opportunities to learn through hands-on experiences. Though some may argue that the FFA and SAE program are not or should not be equal and integral parts of a program, these findings support the rationale behind the model as well as its effectiveness. The students' experiences serve as evidence that the three components working together positively affect student learning, motivation, growth, and success. These findings serve as further evidence that if an Agricultural Education program is to serve all students, including those who are gifted, it must include all three components.

These findings are verified and explained in large by Dr. Kolb's assessment of the Agricultural Education model. The design of agricultural education lends itself naturally to experiential learning which, Kolb contends, is the only kind of learning as "all learning is experiential (Baker & Robinson, 2011, p. 7). And in order for Agricultural Education to be most effective and offer students a comprehensive learning experience, programs must include all three components of the Agricultural Education Model.

The theme of the September 2008 issue of the Agricultural Education Magazine was dedicated to answering the question: "Is Agricultural Education really the premiere educational delivery model?" (The Agricultural Education Magazine, 2008). The answer in each of the articles was a resounding "yes." However, in practice, FFA and SAE are

often less than equally regarded parts of their programs. A 2007 study concluded that agriculture teachers “...are not doing a quality job of conducting the SAE component of their program” (Wilson & Moore, 2007, p. 89). And according to the North Carolina FFA Association, of the more than 44,000 students who are enrolled in Agricultural Education courses, only 16,633 of them are FFA members: less than 39 percent.

If Agricultural Education programs are going to effectively serve students who are gifted, it is imperative that agriculture teachers continue emphasizing the three component model. Teacher education programs should also step forward to ensure that they are providing in depth instruction for pre-service teachers on how to incorporate all three components successfully.

Influential people

One of the primary reasons students who are gifted chose to enroll in agriculture classes was because of the influence of their friends. This finding aligns with Maslow’s belief that individuals of this age need to feel a sense of belonging and will therefore allow friends to influence their decisions (Maslow, 1970). Croom and Flowers also found similar results in their 2001 study.

Knowing the influence that students have on their peers’ decisions to participate in the program, students should be utilized as a primary resource in recruitment. Students should be given every opportunity to represent the program as a participant and product.

Families were also influential in the students' decisions to enroll in an agriculture class. Given this significant role of the parents, it is crucial that agriculture teachers maintain open communication with the families of students. It is essential that the parents are aware of and involved in the activity of the program as much as possible to maintain and strengthen their support of agriculture programs. In addition, it is important to disseminate information about the program to parents of students who are not in the program. Agriculture programs should be an active part of the community; visible partners that work to meet the needs of the community. In doing so, the families in the community will have a better understanding of the value of the programs and be more likely to support them and encourage membership among the youth.

Personal motivation

The findings showed that students who are gifted also have various forms of personal motivation for enrolling in agriculture courses, primarily prior experience, personal interests, and desire to succeed. Knowing that the students' prior experiences with agriculture lead to their decisions to enroll in agriculture courses, it is important to assess the community to ensure that the program is offering curriculum that aligns with the needs of the community. Educators should work to determine what aspects of the agriculture industry exist around the school and then tailor the agricultural education program to the needs presented. For example, if a community is heavily involved in the

equine industry, the agricultural education program should offer courses in the Equine Science curriculum. In doing so, students who grew up working with horses would be more likely to enroll in an agriculture class because they would be already be interested in and familiar with the subject matter. In addition, as research has shown that career choices are often based on what individuals value and their perception of a career (Overbay & Broyles, 2008), this would allow agricultural education programs to attract students who already value the subject matter and guide them into a related career with an accurate understanding of the industry.

It is believed that students who are gifted value experiences in which they can be successful, gain acknowledgement, and, as the study found, "...shine." For a variety of reasons, students feel that they have a better chance of being successful in agriculture classes. This is most likely attractive to students because, as research has shown, students need to believe that success is possible if they are to be motivated and actually achieve. How well a student learns is directly influenced by his or her "personal expectations for success or failure" (American Psychological Association, 1992, p. 9). Therefore, since students who are gifted enter the class with this expectation, they have very positive experiences learning: they learn more information at greater levels of comprehension.

Real life value of knowledge

In order to be motivated to learn, students who are gifted need to be able to see purpose in what they learn. They need to see that the things they are learning are useful and will benefit them in the future. Properly executed Agricultural Education programs are designed in such a way and involve such a curriculum that this should come very naturally. Therefore, students should be able to see purpose in every aspect of their learning experiences.

Recently, the Harvard Graduate School of Education released a report which links relevant curriculum and dropout rates. The report concluded that much of today's education lacks relevance for a large number of students and as such has resulted in "...extraordinarily high dropout rates" (Harvard Graduate School of Education, 2011, p. 10). The report goes on to recommend the development of more career oriented pathways within education such as those offered in current Career and Technical Education models. In doing so, dropout rates would decrease while career-readiness would improve (Harvard Graduate School of Education, 2011). These recommendations are also supported by previous research which found that students who were enrolled in CTE courses in addition to their core academic courses were less likely to drop out of school (Plank, 2001).

As discussed in Chapter 1, the dropout rate among students who are gifted is of some concern. A study in 2000 found that most students who were gifted chose to drop out because they disliked school and because they were failing (Renzulli & Park, 2000).

These reasons for dropping out translate into a lack of relevance of the curriculum (Harvard Graduate School of Education, 2011). Given these findings and knowing that students who are AIG value the real life knowledge they gain in agriculture classes, it can be concluded that a properly implemented Agricultural Education program can play a crucial role in reducing dropout rates among students who are Academically Gifted.

However, in order to fulfill this role, some steps must be taken to ensure that the programs are in fact being properly implemented. Teachers and state leaders may need to reexamine the curriculum to verify that it is indeed grounded in real life and connected to the real world needs of the community and the industry. In the desire to embrace rigor within the Agricultural Education curricula, one must not forget relevance. As the curriculum becomes more scientific, it is critical that the “science for the sake of science” mentality be balanced with a pragmatic philosophy.

Discussion Related to Research Question #2

The students’ responses were grouped into four categories of factors and elements which the students felt discouraged students who are AIG from enrolling in agriculture classes. These categories were: the lack of accurate information, academic pressure, scheduling, and the attitudes of classmates.

Lack of accurate information

According to these findings, the most common reason that students who are gifted choose not to enroll in agriculture courses is a lack of accurate information. From the existence of the courses to the image of agriculture today, students lack a thorough understanding of Agricultural Education and the lifelong benefits of becoming part of such a program. The solution to this is simple: spread awareness. As it has already been established that students themselves play a key role in recruiting their peers, they should be allowed as much involvement as possible in raising awareness about agriculture and Agricultural Education.

Venues in which awareness can be raised vary. For example, in some schools, agriculture teacher and FFA officers seek permission to make presentations to all rising freshmen in order to spread awareness of the programs, present a positive image, and dispel myths. State and county fairs can also be useful in sharing the activities of the program with other students and the community. In addition, student achievements, such as receiving scholarships, awards through the FFA, and success in CDE's can be announced and recognized within the school and community to spread awareness of the opportunities and benefits within the program.

In large part, the lack of understanding relates directly to the image of agriculture and the FFA. Though agriculture today is an industry marked by science and technology, it still struggles to shake the stereotype of being solely based in production farming. The presence of science, technology, engineering, and mathematics (STEM) in

the agriculture industry and classroom should be emphasized at all levels of the organization.

Similarly, the National FFA organization is trying to find the delicate balance between honoring the tradition of farming while portraying the innovation of modern agriculture. One example of this is the continued use of the blue corduroy member jacket which was adopted by the organization in 1933. Researchers have found that both non-members and members express a negative perception of the style (Croom & Flowers, 2001). Nevertheless, attempts to update the jacket have had no success because it is thought that the jacket represents the proud history and traditions of the organization. And to change the jacket would be a dishonor to tradition.

The name of the organization serves as another example. In 1988, the organization changed its name from “The Future Farmers of America” to “The National FFA Organization.” The intent was to reflect the true scope of agriculture by dropping the meaning behind the acronym. Yet nearly 25 years later, those who recognize the organization still associate it with production farming, further perpetuating limited and inaccurate perceptions. Research conducted in Career and Technical Education as recently as 2008 still referred to the student organization as “Future Farmers of America (FFA)” (Gentry et al, 2008, p. 194). And students interviewed for this study expressed the difficulty they encountered in trying to explain the organization to their peers who struggle to understand that the acronym is no long an acronym.

Though these examples may seem trivial, they potentially have major impacts on the image of the organization and the number of students it is able to influence. Though the history of the FFA is rich and important, so is the future. Therefore, perhaps it is time for leaders of the organization to ask themselves, “At what point is it more important to preserve our past than to embrace our future?”

Though some of the students interviewed felt the inaccurate image was a problem they were responsible for improving, teachers should realize that they too play an important role in changing the image of agriculture and Agricultural Education. Moore points out that the teachers of Agricultural Education hold the image of the program in their hands; their daily actions in the classroom will powerfully reflect the image of the program (2011). Therefore, it is the responsibility of the teacher to ensure that facilities and equipment are organized, clean, and cared for. It is the teacher’s responsibility to implement a program which challenges and serves all students; a program which includes all three components of Agricultural Education. And it is the responsibility of the teacher to promote for themselves an image of professionalism and cooperation.

Academic Pressure, Scheduling, and Attitudes of Classmates

Students who are gifted believe that the courses they take during high school are a major determining factor when applying to college. The concern is that classes not labeled as honors, AP or IB on their high school transcripts will reflect less intelligence

or laziness; in short, it simply wouldn't look as good to college admissions committees. In addition to this, the students felt that they could not maintain competitive GPAs if they were not enrolled in weighted classes in which they could earn quality points.

Given that honors level curriculum and courses are limited in Agricultural Education, and based on these findings, further development of such courses should be considered. Doing so could serve as solutions to several of the problems which deter students who are gifted from Agricultural Education. It would eliminate the students' concerns over the appearance of the courses on their transcripts and the effects of the courses on their GPAs. It would also allow them to be with their academic peers and allow teachers to focus on the unique needs of learners who are gifted. It would also eliminate the frustrations students feel from being in a class with students who have negative attitudes about the classes. Finally, it may also help reduce scheduling issues for the students as honors section of agriculture classes would have to be scheduled around other honors level courses.

The lack of recognition of Agricultural Education in academic scholars programs is actually a misconception. The findings reported that many students believed that they could not receive recognition in academic scholars programs if they chose to enroll in agriculture classes. However, as of the 2009-2010 school year, the North Carolina Academic Scholars program requires students to choose a concentration and take four classes in an elective pathway such as Career and Technical Education, which includes Agricultural Education. Therefore, students who choose to enroll in agriculture classes

now have the opportunity to gain the academic honors they once thought unattainable in agriculture classes. This recent change should be highly publicized among students who are gifted at the high school as well as the middle school levels in order to dissolve this misconception that is preventing them from enrolling in agriculture classes.

In addition to the North Carolina Academic Scholars program, students involved in Agricultural Education also have the opportunity to join the National Technical Honors Society. This nationally recognized honors program currently has 270 active chapters in North Carolina Schools which recognize the achievements of students in Career and Technical Education. Emphasizing this opportunity for recognition may help attract more students who are gifted to agriculture classes.

Discussion Related to Research Question #3

The students' responses were grouped into four categories of factors and elements which the students felt contributed to their successful learning in agriculture classes. These categories were: "Learning by doing," direct teaching methods, characteristics of the teacher, and integrating the subject matter. These categories reflect some the practices teachers can use to best serve the unique needs of their students who are AIG.

“Learning by Doing”

The findings suggest that learning by doing, or hands-on learning, was highly desirable. This type of learning gives students the opportunity to have fun while learning and to learn at a deeper level so they are able to retain and apply the information they learn in real life instances. It also allows them to get out of their seats, move around, and experience a change of pace from the “sit and get” routine they experience in many of their other classes during the day.

The curriculum in Agricultural Education already lends itself to this type of learning and teachers should continue working to ensure that as much of this type of learning is included as possible. In addition, teachers should try to provide their students who are AIG with opportunities to learn through problem solving. These students have in common the ability to think in more complex and abstract ways (Coleman & Gallagher, 1995; Winebrenner, 2001); presenting them with such opportunities will allow them to use and develop their higher order thinking skills.

Teaching methods

The three teaching methods that the students who are AIG found most desirable were discussion, repetition, and demonstration. By utilizing discussion, students who are gifted are again able to use their higher order thinking skills but they are also given a sense of inclusion in the class. Instead of teachers talking at them, they get to be active

participants in what and how they learn; they get to express opinions and thoughts in a safe environment.

Repetition, while a very basic level of learning, was also preferred when learning new materials. Often in classes, there is so much pressure to teach as much of the curriculum as quickly as possible to ensure that the entire curriculum is covered before the standardized, end of course test. Unfortunately, this method of curriculum cramming is less conducive to learning. Students who are gifted are often perfectionists who need repetition; they need chances to practice until they get it right. Though these students often learn faster than other students, it should not be assumed that they do not want or need time to learn or improve on a skill. Given time and guidance, they may be able to achieve at a higher level of proficiency.

Likewise, demonstrations by the teacher should not be skipped over in the essence of time. Students who are gifted want to avoid the possibility of failure as much as possible. As such, they value demonstrations because it gives them the opportunity to see step-by-step how a process is completed and therefore become more confident in their own abilities to complete the skill successfully.

Characteristics of the teacher

Again, the agriculture teacher appears in the findings. Not only do they have the ability to attract students who are gifted to agriculture classes, they are also a major factor in their learning. According to the findings, the students learned best from

teachers who were able to make learning fun. What the students described as the teacher's entertainment factor ultimately stems from the individual's enthusiasm for students and for agriculture. Teachers who are enthusiastic inspire enthusiasm, and therefore learning, in their students.

These findings are not surprising as enthusiasm has long been thought to be one of the characteristics of effective teachers (Baum, 2002; Davis, 2009; Rosenshine & Furst, 1971; Winebrenner, 2001). As enthusiasm stems from passion, it is important that teachers of agriculture have a passion for teaching and for the subject matter. However, even the most dedicated teachers can burn out. In such situations, Davis suggests that teachers spend time reflecting on what factors influenced their decisions to teach (2009).

Integrating the subject matter

Agriculture relates to most every aspect of life. Therefore, agriculture classes naturally lend themselves to integration of the curriculum with other subject areas including art, technology, biology, chemistry, and marketing. The findings state that students who are gifted benefit from integrating the agriculture curriculum with other subject areas. The key for agriculture teachers is to attempt to link agriculture to other subjects in which students who are gifted show interest. This will encourage them to see the value of agriculture in other aspects of their lives and give them the opportunity to enhance their learning by translating information from the agriculture classroom to

other contexts. According to Revised Bloom's taxonomy, this would mean achieving the third level of learning, applying, and opening the doorway to the levels indicative of higher order thinking skills (Anderson et al., 2001).

Discussion Related to Research Question #4

The students' responses were grouped into four categories of factors and elements which indicated how the students who were interviewed felt about their agriculture classes. These categories were: positive perceptions overall, balance of challenge, "It all starts with the teacher," and areas for improvement.

Positive perceptions overall and a balance of challenge

Overall, the findings indicated that the students had very positive perceptions of their agriculture programs. Agriculture classes were their favorite classes for a variety of reasons; they were fun, relaxing, interesting, enjoyable, and the class in which they felt they learned the most. All of these culminate to indicate that students who are gifted enjoy a balance of challenge in their agriculture classes.

Agriculture classes give students who are AIG the opportunity to learn a large amount of information and acquire various skills without overwhelming them with pressure. They learn better in the relaxed environment of the agriculture classroom; they can be challenged without being under stress, they can relax without being bored and unengaged. When students are allowed to learn in such an environment, they come

to the class because they want to learn. They come because they know they can and will learn without the threat of failing. They come because they want to; this is the type of student every teacher wants the opportunity to teach. By cultivating this environment, teachers may also be able to cultivate the type of students they want to teach. The type of students who become lifelong learners, who learn to value agriculture and education, and who go on to achieve great success in the future.

“It all starts with the teacher”

It seems the key to success in each program was the teacher. The programs visited were chosen because they were recognized by the leaders of Agricultural Education in our state as being of the highest quality. The findings tell us that the key to being the best and truly serving the needs of the students is the teacher.

Students who are gifted recognize and appreciate dedicated, expert teachers. They value their learning experiences even more highly because they respect their teacher. The saying rings true: “People don’t care how much you know until they know how much you care.” While expert knowledge was mentioned, the overall message from the students interviewed was that they had teachers who cared. High quality programs rely on teachers who care about their students, who have a passion for teaching, and who have the dedication to serve each student on an individual level.

With the understanding of the importance of teachers in serving the needs of students who are gifted, it is important that pre-service and in-service teachers are

provided training in working effectively with these students. Training would create awareness of the important characteristics and give teachers the opportunity to develop the desired characteristics. A study out of Queensland, Australia reported that pre-service teachers who attended a six week program on teaching students who are gifted were more confident in their understanding of the needs of the students and their ability to meet those needs (Lewis, Hudson, & Hudson, 2010). Currently, there are no programs or classes in Agricultural Education teacher preparation programs which focus solely on the needs of students who are gifted. The adoption of a program or course geared toward teaching these students may help improve teachers' confidence level and ability in effectively serving these students.

Areas of improvement

Though findings indicated that the students who are gifted were mostly satisfied with their experiences, they did indicate two areas in which they would like to see improvements. Creating honors level classes could serve as a solution for of these situations: peers with different attitudes and challenges of mixed ability classes.

From middle school into high school, students who are gifted very rarely have classes with students who are not gifted, or at least motivated to work hard and achieve. They are placed in honors, AP, or IB classes with students who think the way they do, mature the way they do, and value the things they do. Therefore, when they are placed in classes with students who develop emotionally, socially, and academically

differently, the behaviors and attitudes tend to stand out to students who are gifted and are often perceived as negative behaviors.

In addition, some of the students reported feeling like “an odd-ball” in their agriculture courses. This is not an uncommon experience for students who are gifted as studies have shown that they often feel isolated or misunderstood because of their abilities and personality types (Mills & Parker, 1998). It is thought, however, that these feelings of isolation could lead to a decline in the students’ motivation (Mills, 2003). Coleman and Gallagher (1995) also addressed this. They asserted that students who are gifted have social needs which may differ from those of their classmates causing them to feel different from their peers. They recommend that support be available to address these needs and protect the wellbeing of the student (Coleman & Gallagher, 1995). Therefore, it is important that teachers are aware of this and prepared to offer encouragement to counteract the potentially adverse effects.

Similarly, students who are gifted are unlikely to be placed in classes with students who are not AIG. Though the students who are gifted are sensitive to the needs of learners who need more assistance, they recognize and feel the ramifications of the challenge in teaching a class of students who have mixed abilities. Often, the students felt that they were left to fend for themselves while their teachers worked mainly with those who were achieving at lower levels. These findings coincide with those of the Fordham Institute Report of 2008 which also indicated that high achieving students in

such situations made very minimal academic gains because of the lack of attention they were receiving from their teachers (Loveless, Farkas, & Duffett, 2008).

In both of these situations, the experience is good for the students who are AIG. In life and in their careers, they will need to be able to understand and work with all types of people. However, in both situations the students reported that they felt their learning was hindered.

It has long been thought that children who are exceptional are entitled to learn in the least restrictive environment. Students who are gifted are considered exceptional children in the state of North Carolina. Yet in Agricultural Education, there are few options but to place these students in the regular classroom, which is not necessarily the least restrictive environment for a student who is gifted (Gross, 2000). If these students are being limited in their learning by these situations, it is the duty of the school to find a way to eliminate the restrictions.

Creating honors level curricula and sections of agriculture classes could serve as a solution. Students who are gifted would have the opportunity to learn with their academic peers. Teachers would be able to focus on the strengths of students of every ability level and ensure no student's learning would suffer; no student would be neglected or left behind in the classroom.

Conspectus

This study, as well as much of the research that supports these findings, fully support Prosser's fourteenth theorem. Prosser believed that in order for a Vocational Education program to be successful it had to be aware of and cater to the needs of the individuals it served. Students who are academically have their own unique needs that must be taken into account if teachers are going to meet their needs as required by law and as necessary to protect the students.

For example, the students felt they learned best from opportunities when they were able to learn in hands-on environments as opposed to sitting in a desk learning from a text book. Knowing this need, teachers can design more activities that capitalize on the students' strengths and improve their learning experience. Also, as this study has shown that students who are gifted feel their learning is at times hindered by the attitudes of their classmates, the teacher can take into account the students' needs to be with academic peers and create opportunities for that type of interaction to occur. When educators realize the needs that individual students have, they can better determine solutions to meet their needs. And once those needs are met, the students will be able to grow and flourish academically and intellectually.

Recommendations for Further Research

Because little is known of the status of students in Agricultural Education who are Academically or Intellectually gifted, the findings of this study serve as a starting point: a gateway to learning more. Additional research should be conducted:

1. To determine the number, demographics, and experiences of students in agricultural education programs in North Carolina who are AIG.
2. To compare the attitudes and experiences of students who are gifted who are not enrolled in Agricultural Education programs with the attitudes and experiences of students who are gifted and are enrolled in Agricultural Education programs in North Carolina.
3. To determine the confidence levels of agriculture teachers in teaching students who are AIG in agriculture classes.
4. To determine the number, demographics, and experience of students in agriculture programs nationwide who are also identified as gifted.

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APPENDICES

APPENDIX A

Focus Group Interview Protocol

Focus Group Interview Protocol

With audio recorder turned off: (These questions are to build rapport and will NOT be included in the research.)

1. As student enter, ask them to quickly fill out the student information sheet.
2. Please introduce yourself by telling us your name and a little known fact about yourself.
3. Ice breaker activity: (Facilitator will share a personal story as an example.)
 - a. Think back to when you were first identified as Academically or Intellectually Gifted. When was it and what did your school do for you and the other gifted students?
4. Scripted explanation of the study
 - a. The intent of this study is to learn more about the needs of AIG students in agriculture classes. The goal is to help agriculture teachers better serve students like yourselves in their programs so that we can recruit more AIG students and hopefully direct them into careers in our increasingly complex and technologically advanced agriculture industry
 - b. As stated in the consent form, your responses are totally anonymous. You will not be identified and when we analyze the data we will be looking for trends in responses from all across the state, not specific answers from individuals. Also, I encourage each of you to respect the privacy of your peers and not discuss sensitive material that we may talk about today outside of this group.
5. Are there any questions before we turn on the recorder and begin?

With audio recorder turned on:

1. What made you decide to take an Ag class?
2. Tell me about the pros and cons of your Ag classes?
3. What would make more gifted students want to take Ag classes?
 - a. If they say "Image?" Who's responsible for changing that image?
4. Think back to the last time you felt that you really learned something new and enjoyed it. What did you learn and how did you learn it?
5. What could your teacher be doing to make learning in your Ag classes more fun for you?

6. How do you feel about your Ag classes?
 - a. If they say “Boring?” Why?
 - b. What challenges you in the class?
 - c. How do they compare with your other classes?
7. What do you feel your teachers do to try to challenge you?
8. How does the way your Ag teacher teaches you compare with the way he or she teaches other students in your class?
9. What makes this program work for you?

General Prompts:

- Can you elaborate?
- What do you mean by that?
- Tell me more about that.
- Can you give an example of what you mean?
- Does anyone feel differently?

APPENDIX B

Student Information Sheet

Student Information Sheet

In order to learn a little more about you and your background, I'd like to get some more information. You do NOT need to include your name and none of this information will be tied back to you in any way. Please answer the following questions as accurately as you can.

1) Year in High School (Please Circle One)

Freshman

Sophomore

Junior

Senior

2) What classes are you taking this semester?

| Class Schedule | |
|-----------------------|----------------------|
| Period | Name of Class |
| 1st | |
| 2nd | |
| 3rd | |
| 4th | |

3) Put a check beside the tests you have taken. If possible, please provide your score.

| <input checked="" type="checkbox"/> | Test | Score |
|-------------------------------------|-------------------|--------------|
| <input type="checkbox"/> | PSAT | |
| <input type="checkbox"/> | SAT | |
| <input type="checkbox"/> | ACT | |
| <input type="checkbox"/> | AP Test: _____ | |
| <input type="checkbox"/> | Other Test: _____ | |

4) What is your current GPA? _____

5) What are your future and career goals?

6) Do you plan to work in an Agriculture related field? Why or Why not?

APPENDIX C

Email Communication with State Leaders

Dear [State Agricultural Education Leader],

My name is Elizabeth Gray and I am a graduate student in the department of Agricultural and Extension Education. I am beginning work on my master's thesis and am in need of your help. My research is going to explore the perceptions that students who are Academically and Intellectually Gifted have of the Agricultural Education program. It is my hope to be able to identify the strengths and weaknesses of our programs in addressing the needs of AIG students so that we can more successfully attract and serve these learners. To collect information for this study, I plan to conduct focus groups with AIG students. I would like to conduct one focus group in each of the 8 regions of NC and then compile all of the responses to look at overall trends.

Here's where you can help: I need help identifying schools in each region (ie Northeast, Southwest, East Central, etc.) that have quality programs which attract AIG students. For each region under your leadership, could you identify at least 3 schools that you believe fit this description? I would like to have this information by the end of February at the very latest.

Thank you for your time and please let me know if you have any questions.
Elizabeth

APPENDIX D

Email Communication with Teachers of Recommended Programs

Dear [Agriculture Teacher],

My name is Elizabeth Gray and I am a graduate student in the Department of Agricultural and Extension Education at NC State University. I am beginning to conduct research to find out more about the Academically or Intellectually Gifted (AIG) students in our Agriculture Programs and what we can do as teachers to better serve these students. My plan is to conduct a focus group with a group of AIG students at a school in each of the eight AEE regions. After contacting the regional coordinators, [regional coordinator] recognized your program as a high quality Ag Program in North Carolina and recommended I contact you.

If you participate in this study, I would need to meet with a group of 5 to 10 of your students who are classified as AIG for about 1 hour. I would travel to your school to meet with them at a time that is convenient for you and your students. I have created a written consent form which I will send you as an email attachment. Each student participating will need to have a parent or guardian read and sign the form prior to the day of the meeting. The identities of the students and their school will be kept anonymous throughout the course of the study.

Please reply to this email and answer the questions below. To make things more convenient for both of us, only one teacher from your program needs to reply. Once I have received this preliminary information, I will contact you for further details.

Thank you in advance for all of your help,
Elizabeth

Preliminary Information

1. How many students who are currently enrolled in your Agriculture Program are officially identified as Academically or Intellectually Gifted? (Please include the number of AIG students taught by all teachers in your program.)
2. Would you be able to organize a time and location at your school for a focus group to be conducted with these students?

APPENDIX E

IRB Approval

NC STATE UNIVERSITY

Sponsored Programs and
Regulatory Compliance
Campus Box 7514
2701 Sullivan Drive
Raleigh, NC 27695-7514

919.515.2444
919.515.7721 (fax)

From: Debra Paxton, IRB Administrator
North Carolina State University
Institutional Review Board

Date: June 17, 2010

Project Title: Academically and intellectually gifted students' perceptions of agricultural education

IRB#: 1520-10-6

Dear Ms. Gray:

The research proposal named above has received administrative review and has been approved as exempt from the policy as outlined in the Code of Federal Regulations (Exemption: 46.101. b.1). Provided that the only participation of the subjects is as described in the proposal narrative, this project is exempt from further review.

NOTE:

1. This committee complies with requirements found in Title 45 part 46 of The Code of Federal Regulations. For NCSU projects, the Assurance Number is: FWA00003429.
2. Any changes to the research must be submitted and approved by the IRB prior to implementation.
3. If any unanticipated problems occur, they must be reported to the IRB office within 5 business days.

Please provide your faculty advisor with a copy of this letter. Thank you.

Sincerely,

Debra Paxton
NCSU IRB