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By Kesha Atasha Henry

Entitled
PREPARING STUDENTS FOR HIGHER EDUCATION AND CAREERS IN AGRICULTURE AND RELATED FIELDS: AN ETHNOGRAPHY OF AN URBAN CHARTER SCHOOL

For the degree of Doctor of Philosophy

Is approved by the final examining committee:

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PREPARING STUDENTS FOR HIGHER EDUCATION AND CAREERS IN AGRICULTURE AND RELATED FIELDS: AN ETHNOGRAPHY OF AN URBAN CHARTER SCHOOL

A Dissertation

Submitted to the Faculty

of

Purdue University

by

Kesha Atasha Henry

In Partial Fulfillment of the

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of

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ABSTRACT

Henry, Kesha Atasha. Ph.D., Purdue University, August 2012. Preparing Students for Higher Education and Careers in Agriculture and Related Fields: An Ethnography of an Urban Charter School. Major Professors: B. Allen Talbert and Pamala V. Morris.

This study explored the preparation of students for higher education and careers in agriculturally-related fields at an urban charter high school. The data were collected through interviews, observations, and field notes. The data were analyzed by qualitative methodology with phenomenology as the theoretical framework. Findings indicated that administrators thought it was important to incorporate agricultural science courses into urban school curricula. They stated that agricultural science courses gave urban students a different way of looking at science and helped to enhance the science and technology focus of the school. Further, agricultural science courses helped to break urban students' stereotypes about agriculture and helped to bring in more state funding for educational programs. However they thought that it was more challenging to teach agricultural science in urban versus rural schools and they focused more on Science, Technology, Engineering, and Mathematics (STEM) related careers. The students had mixed views about higher education and careers in agriculture. This was based on their limited knowledge and stereotypes about agricultural majors and career options. The students highlighted several key reasons why they chose to enroll in agricultural science courses. This included the benefits of dual science credits and the ability to earn an associate

degree upon successful completion of their program. Students also loved science and appreciated the science intensive nature of the agricultural courses. Additionally, they thought that the agricultural science courses were better than the other optional courses. The results also showed that electronic media such as radio and TV had a negative impact on students' perceptions about higher education and careers in agriculturally-related fields. Conclusions and recommendations are presented.

CHAPTER 1: INTRODUCTION

Problem Statement

Agricultural Education programs and careers have long faced the challenge of competing with programs and careers in the fields of medicine, engineering, and the business industry in attracting talented students (Osborne & Dyer, 2000; Thompson & Russell, 1993). Many talented students are guided into other fields because the general public perceives them to be more viable career options that will provide better prospects for economic stability (Orthel, Sorensen, Lierman & Riesenberg, 1989; Thompson & Russell, 1993). Agricultural enrollment in high schools as well as universities has wavered significantly in past years. As a result, for the past two decades the enrollment trends have played a big role in the way agriculturally-related high schools, universities, and colleges of agriculture operate as it relates to the strategies for recruiting and educating our future agriculturalists. During the 1980s, agricultural enrollment in high schools decreased considerably. This decrease in enrollment also had a severe impact at the college and university levels during the latter parts of the 1980s (Peiter, Coffey, Morgan, & Kantrovich, 2004; Manderscheid, 1988; White, Stewart & Lindhardt, 1991).

A report by Manderscheid (1988) showed that there was a 24 percent decrease in enrollment at land-grant universities agricultural programs during the years 1978-1988. There was a 13 percent decrease in agricultural programs at non-land-grant universities.

As a result of the decline in enrollment, there were reductions in faculty positions and elimination of agricultural programs (Peiter, Coffey, Morgan, & Kantrovich, 2004). However, enrollment in agriculturally-related programs rebounded in the later years after the agriculture curricula became more modernized as recommended by many organizations such as the National Research Council (1988; 2009). By the year 2001-2002, more than 742,732 students across the country enrolled in various types of secondary agricultural programs (National FFA Organization, 2003). For the years 2004 through 2010 the enrollment numbers continued to increase nationwide. For example, one of the states that reported increase numbers of student enrollment is Kentucky. Kentucky Career and Technical Education (2003) reported that during the academic year 2002-2003, there were 28,974 students enrolled in agricultural programs at the high school level. These agricultural programs courses were classified into several different career clusters which include areas such as forestry, horticulture, production agriculture, as well as, agricultural business and mechanics. During this period, colleges of agriculture at various universities also reported increases in enrollments (Peiter, Coffey, Morgan, & Kantrovich, 2004).

Increase in enrollment was also reported in other parts of the country. Retallick and Martin (2008) found there was an increase in the number of students enrolled in Agricultural Education programs in the state of Iowa. The study showed an increase in enrollment in Iowa over a 15-year period. The growth in the number of female enrollments was the highest. The number of females enrolled in Iowa Agricultural Education programs was 15% in the year 1991 which increased to 32% for the year 2005. For the same period Agricultural Education programs enrollment increased at an annual

rate of 4%. In addition, FFA membership increased 2% annually, while students' participation in Supervised Agricultural Experience (SAE) increased 2% annually.

According to a report from the Food and Agricultural Education Information System [FAEIS] (2011), the number of students enrolled at the baccalaureate level in agriculture, agricultural operations, and related sciences at 1862 and 1890 land-grant institutions for the years 2004, 2006, 2008 and 2010 were 51,904; 53,479; 57,878; and 59,004 respectively. The report showed that over 50% of the total number of students enrolled at the baccalaureate level were White. There was an increase in the number of minority students enrolled in agriculture programs during the years 2004 and 2010 at land-grant as well as non-land-grant institutions. For the same two years, there was a higher number of minority students at land-grant institutions in comparison to non-land-grant institutions except for Hispanics which had higher numbers of students enrolled at non-land-grant institutions.

Although the rebound in enrollment has been viewed as a positive step for Agricultural Education programs, such growth has many implications for the field. There is a need for constant change in the way Agricultural Education programs are offered. This is even more critical in today's educational system where educators are bombarded with higher expectations and increased classroom accountability. Educators are expected to increase students' performance with limited resources and outdated educational materials. Based on the trends that have been identified for agricultural enrollment at high school and university levels, there is a growing need for continued evaluation and research. Such research needs to investigate the factors that cause changes in enrollment

in agricultural programs. This can help to develop strategies for improving Agricultural Education programs (Retallick & Martin, 2008).

Other important areas that must be taken into consideration include strategies that can be implemented to increase the number of minority students enrolled in agricultural programs. Talbert and Larke (1995b) found that minority students and particularly those who were females were not largely represented in Agricultural Education programs. They also found that this group of students tends to have a more negative perception of agriculture as a career. Therefore it is of vital importance that colleges of agriculture engage more vigorously in the recruitment of talented students from diverse populations in an effort to increase student enrollment (Bell & Fritz, 1992; The Pennsylvania State University, 1980). Students from urban areas as well as minority groups are among the population that colleges of agriculture should seek to recruit. This is important because many urban and suburban high schools have little or no knowledge in agriculturally-related fields (Osborne & Dyer, 2000).

According to Goecker, Gilmore, Smith, and Smith (2004) there are many opportunities for employment when students graduate with degrees in the food, agriculture, and natural resources management areas. The United States Department of Agriculture (USDA) also stated that these opportunities are predicted to continue to flourish over the next few years. In 2004 the USDA predicted that there were going to be over 52,000 agriculture related jobs every year for students graduating from college during the period 2005-2010 with approximately 49,300 students who were qualified for these positions annually. However, only about 32,300 of the new graduates are believed to actually take jobs in these areas. These students come from a wide variety of

concentrations which includes colleges of agriculture and life sciences, veterinary medicine as well as forestry departments (Goecker et al., 2004).

The federal government has allocated funds to be used by institutions of higher education in their effort to recruit students into their graduate programs who are from minority populations (Gilmore et al., 2006; White et al., 1991). Other efforts that have been implemented in order to increase the enrollment of students in agriculturally-related fields include the USDA sponsorship of a national summit in 1988 that focused on agriculturally-related graduate education. The Board on Agriculture and Natural Resources of the National Research Council convened its first conference in spring of 1991 on higher education. The objective was to initiate a comprehensive change towards the many challenges that existed at the undergraduate educational level specifically in agricultural education programs. Some of the many topics that were presented and discussed include issues related to multiculturalism and diversity, globalization, research at the undergraduate level, agricultural science, core curriculum and innovation and scientific literacy. Further efforts have been initiated by the National Research Council as outlined in *Transforming Agricultural Education for a Changing World* (National Research Council, 2009). The USDA allots more than $100 million per year for programs in higher education particularly in support of colleges of agriculture and natural resources both at land-grant and non-land grant institutions (Gilmore et al., 2006).

Additionally, there are many changes that have been implemented over the last quarter century. For example curricula for natural resources and agriculture have been revised in order to reflect and cater to a wide cross section of students with varied

educational backgrounds and areas of interest. Many facilities and equipment have been upgraded in order to reflect new and upcoming techniques in biotechnologies as well as other technological advancements. Currently emphasis is directed toward experiential learning that includes encouragement of undergraduate students to participate in research, local and international internships both in public and private organizations. Funding initiatives such as fellowships have also stirred the interest of high quality graduate students to choose higher education and careers in agriculture as well as natural resources. Also the implementation of programs geared towards the recognition of faculty who have been identified as outstanding teachers has also impacted and attracted students toward graduate programs in agricultural education (Gilmore et al., 2006).

A large number of agricultural students are from rural areas therefore, college recruiters should aim to recruit students from urban areas as well (Tarpley & Miller, 2004). According to Talbert, Larke, Jones, and Moore (1997) colleges of agriculture should try to recruit more students from under represented populations into their programs. Although some research studies have investigated issues surrounding Urban Agricultural Education, there is still the need for more research in this area and particularly at the secondary school level (Esters, 2007b). Numerous studies have investigated secondary students specifically in rural communities. These studies have also identified a number of socio-cultural factors which contributes to the enrollment of students in Agricultural Education programs. These factors include the influence by parents and peers as well as other individuals with which students are associated. Some of the studies also identified the mother or the female guardians to have a more influential role on their children's decision to enroll in Agricultural Education programs

(Connors, Moore, & Elliot, 1989; Hoover & Scanlon, 1991; Luft & Geise, 1991; Marshall, Herring, & Briers, 1992; Reis & Kahler, 1997; Sutphin & Newsom-Stewart, 1995; Talbert & Larke, 1995a).

Significance of the Study

The literature has indicated that over the years, 1980s through 2009, there has been some level of fluctuation in the enrollment of students in Agricultural Education programs. While there has been a rebound from the decline in the agricultural enrollment in the 1980s there is still a need for continuous reform in the way that Agricultural Education programs are offered; at the high school as well as university level. Such reform is even more vital in our current educational system in which educators are facing increased pressure, higher expectations and increase classroom accountability. Educators are challenged daily to increase students' progress with limited classroom resources. Due to the trends that have been observed in the agricultural enrollments at high school and university levels it is of critical importance for continuous investigation and research. Such research can help to identify strategies for improving Agricultural Education programs in order to maintain a consistent increase in student enrollment in agricultural programs at high schools and universities (Retallick & Martin, 2008).

It is important to increase students' enrollment in agriculture and related fields because our society requires individuals that are equipped with the knowledge and expertise to work in the food, fiber, and natural resources industry (Goecker et al., 2004; White, Stewart & Lindhardt, 1991). This research study provides insight to other urban

schools about how they can improve their programs to better prepare students for various careers in the field of agriculture. The study could help to increase the number of students who are enrolled in colleges of agriculture. Additionally, the study may shed light on curriculum deficiencies as it relates to the broader domain and diverse career options in agriculture and related fields. The audience for this research includes faculty from agricultural departments in higher education, urban school principals and teachers, students from urban communities, Purdue University and other land-grant institutions, Agricultural Education curriculum developers as well as parents. This research provides information that may be used by the various stakeholders as well as policy makers in education at various all levels for educational reform.

Purpose of the Study

The purpose of this research was to examine the framework that was used at an urban charter high school in the preparation of students for higher education and careers in agriculture and related fields. The study specifically examined administrators' perceptions about incorporating agricultural science courses into urban school curricula; the difference between teaching agricultural science in urban charter school in comparison to traditional rural public school; urban students' perceptions about higher education and careers in agriculture; and the main factors that contributes to students' decisions to take agricultural science classes as opposed to taking other optional classes.

Research Questions

The study provides answers to the following research questions:

1. How do administrators view the infusion of agricultural science courses into urban school curricula?
2. How do urban students view higher education and careers in agriculture?
3. Why do urban students choose to take agricultural science courses as opposed to other optional courses?
4. How does teaching agricultural science in an urban charter school differ from rural school?

Limitations of the Study

This study was limited by several factors:

1. The study was conducted at an urban charter high school therefore the results of the study may be applicability to schools that are similar to the school that was investigated. However, caution must be taken since the results may not be generalizable to traditional public urban high schools and rural high schools.
2. The data were collected over a period of one semester therefore a longer period might have yielded additional or different data.
3. This study was limited by the number of participants. The school where the study was conducted was experiencing several challenges and this in turn, impacted the number of participants in the study during the data collection period. Some of the

challenges that the school was facing include low enrollment and financial problems which lead to the school closure at the end of the fall semester (News-Sentinel.com, 2011).

4. Because the school was closed at the end of the fall semester it was very difficult to locate all of the participants of the study to do follow up and member checks.
5. Due to the many challenges (low enrollment and insufficient funding) that the school was facing at the time of the data collection it is likely that the morale of the administrators and students might have been affected hence, impacted their responses during the interviews. For example teachers and students were uncertain whether or not the school was going to stay open; therefore, some students might have been worried about finding and transitioning into a new school. In addition some teachers indicated that they were bothered by the uncertainty and were in the process of applying for teaching positions at other schools.
6. The data for the study were collected during the first semester that the school had a full time agricultural science teacher and a full time Agricultural Education program therefore, several components of the agricultural science curriculum were not fully implemented. These components include FFA, and Supervised Agricultural Experience (SAE). Therefore, if the data were collected after all the major components of the Agricultural Education program were implemented the students would have been more knowledgeable about higher education and careers in agriculture which could have lead to better responses during the interview.

7. Many of the students who participated in the study were taking agricultural science classes for the first time. Therefore, they had little or no knowledge about higher education and careers in agriculture which impacted their ability to provide detailed information.
8. Some of the administrators who participated in the study were in their first semester at the school. As such they were only able to provide limited information about the Agricultural Education program. However, they shared their vision of developing a strong Urban Agricultural Education program at the school and their perceptions of the importance of incorporating Agricultural Education into urban school curricula.
9. Some of the administrators who could provide critical information that would be valuable to the study were willing to share information but were not willing to sign an informed consent form or be tape recorded. Therefore, they could not be used as participants of the study.
10. The participant pool was shallow hence; the study was limited by the number of participants and by their quality of experience and knowledge. However, this sample size did allow for a high quality ethnographic study that provided opportunity for the researcher to immerse herself in the setting.

Definition of Terms

1. Abductive Data Analysis: Gives a description of qualitative research as essentially a cognitive process that combines inductive as well as deductive data analysis (Charmaz, 2006; Mayan, 2009).

2. Agriculturalist: "An agriculturalist works with the preparation of agricultural products for human consumption; they are the general practitioner of the agricultural industry. While many agricultural professions may specialize in the study of specific areas, the agriculturalist studies a broader range of agricultural areas." (The National FFA Organization, 2012).
3. Agricultural Science and Business Teacher: Term used in Indiana for an agricultural education teacher on the secondary level. Comparable terms include agriculture teacher, agricultural science teacher, and Agriscience teacher. (B. A. Talbert, Personal Communication, March 16, 2012)
4. Agricultural Education: "is a systematic program of instruction available to students desiring to learn about the science, business, technology of plant and animal production and/or about the environmental and natural resources systems." (The National FFA Organization, 2012).
5. Charter Schools: Are generally established by groups of people (e.g. teachers, administrators, parents, community leaders or local community-based organization) who may be associated with other school districts. The main objective of charter schools is to help to increase accountability within the school system as well as stimulate school reform through the introduction of competition within the educational system (Nelson, 2002).
6. Deductive Data Analysis: is a type of analysis that begins with general and abstract concepts to more specific reasoning (Charmaz, 2006).
7. FAEIS: Food and Agricultural Education Information System (FAEIS, 2005).

8. FFA: The National Organization, formerly known as Future Farmers of America. The mission of the FFA is to "make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education." (The National FFA Organization, 2012).
9. Inductive Data Analysis: "Is a search for patterns of meanings in data so that general statements about phenomena under investigation can be made" (Hatch, 2002).
10. Land-grant University: "An institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1862 and 1890. The original mission of these institutions, as set forth in the first Morrill Act, was to teach agriculture, military tactics, and the mechanic arts as well as classical studies so that members of the working classes could obtain a liberal, practical education" (Washington State University Extension, 2009).
11. Magnet School: "Magnet schools have programmatic specializations that parents can choose as an alternative to their children's regularly assigned schools. They are required to operate under racial-balance guidelines and are used along with school-choice policies that open up choice to most or all schools within a district" (Archbald, 2004).
12. Urban Agriculture: "Is the growing, processing, and distribution of food and other products through intensive plant cultivation and animal husbandry in and around cities" (Bailkey et al., 2003).
13. Urban Agricultural Education Programs: Those programs that located in urban or metropolitan areas. Students that are enrolled in urban high school agricultural

education programs are provided with formal instruction in three main components. The three main components are classroom and laboratory instruction, FFA and Supervised Agricultural Experience (SAE) (Esters & Bowen, 2004; Soloninka & Connors, 2003; Whaley & Lucero, 1993).

14. USDA: Unites States Department of Agriculture (USDA, 2011).

Career Development of Ethnic Minorities and Social Cognitive Career Theory (SCCT)

Urban high schools are generally comprised of large population of students from diverse ethnic backgrounds who are at various stages of their educational and career development. Therefore, the career development of ethnic minorities is a fundamental component of this study. Additionally, the SCCT (Lent et al., 2001) is one of the guiding theories that underpinned this study. Career development of ethnic minority helps us to understand the challenges that many students from minority groups face when making career decisions. Students from minority populations often face many social and cultural barriers (e.g. lack of economic resources at their schools, homes and communities; limited career role models) to career development (Gushure, Scanlan, Pantzer & Clarke, 2006). One of the goals of this study was to identify some of the socio-cultural factors that impact the career development of urban students. The SCCT is based on two main components, self-efficacy and outcome expectations. These two components play a critical role in the career development of urban students (Lent et al., 2001).

Career Choice and Career Development of Ethnic Minorities

As the United States population continues to increase in diversity, it becomes even more critical that counseling and career offices at higher education institutions promote minority students' career development. While this may be true for all universities, it is even more crucial for Predominantly White Institutions (PWIs). With increasing cultural diversity on these campuses counseling and career offices must provide support services to accommodate a diverse population of students. Research has shown that minority students who attend PWIs have underused the career services (Gushure, Scanlan, Pantzer & Clarke, 2006). Many factors have been identified that are related to the challenges that African American students and other minority groups face in their career decisions. These include a range of negative social as well as environmental factors (e.g. lack of support systems; discomfort due to the social climate of university campuses; lack of economic resources at their schools, homes and communities; limited career role models) that leads to lower graduation rates (Gushure, Scanlan, Pantzer & Clarke, 2006). With these and many other challenges that African American students face, it is important to understand certain factors which contributes to African American students' career development (Falconer & Hays, 2006).

Research has shown that in comparison to European Americans, African Americans are more likely to be represented in larger numbers at lower level jobs. Those who hold higher level jobs are often hindered from further promotion due to the "glass ceiling" effect (Falconer & Hays, 2006). Glass ceiling can be defined as "artificial barriers to the advancement of women and minorities" (U.S. Department of Labor, Federal Glass Ceiling Commission, 1995). Some studies have investigated career

exploration and development of minority students however, due to the many factors that impact career development of African American students, career exploration and development is an area that needs further examination (Ladany, Melincoff, Constantine, & Love 1997).

One important aspect of adolescents' development is vocational identity. The development of vocational identity can serve as a medium through which adolescents express their emerging self-concepts. Vocational identity can be described as individual's conceptualization of their goals and vocational interests. Career theorists have emphasized that adolescence is a critical developmental stage in the exploration and creation of prospective career goals. While students are in high school, they make critical decisions that will impact their career aspiration and plans for the future. These decisions include discussions about completion of their high school education, and whether they should move on to higher education or find employment (Gushure et al., 2006). These career decisions that students make while in high school are critical components of this study, specifically in urban settings. There are several theories of career development that provides information about the relationship between people's personality and behavior with their work and career aspirations. However, many of these theories are based on research that was conducted on White men who came from middle to upper middle class families. As a result their applicability to minority groups and women from other socio-economic backgrounds has raised some concerns (Kerka, 1998).

Social Cognitive Career Theory (SCCT)

According to Lent et al. (2001) SCCT was developed in an effort to provide explanation as it relates to the relationship between people and contextual variables grounded in three critical stages of career development. These stages include "the formation of academic and vocational interests, selection and pursuit of career relevant choices, and performance and persistence in educational and occupational endeavors" (p. 449) (Lent, Brown & Hackett, 1994). The salient tenets of the (SCCT) (Lent et al., 1994) are grounded in Bandura's (1986) Social Cognitive Theory. These main components are self-efficacy and outcome expectations. According to Bandura, self-efficacy may be defined as the evaluation of oneself as it relates to one's ability towards completing a specific task or accomplishing a particular level of achievement (Stitt-Gohdes, 1997).

When self-efficacy theory is applied to areas such as vocational psychology, SCCT postulates that the likelihood of an individual pursuing and being successful in their occupation is higher when they have high self-efficacy (Deigelman & Subich, 2001; Lent, et al., 1994). Based on the aforementioned tenets of the SCCT and other vital components of the theory it is quite applicable for this study. Agriculture is often viewed by many as an area that is not as rewarding when compared to areas such as engineering and medicine. Hence, many students tend to hold negative perceptions of agriculture (Osborne & Dyer, 2000; Thompson & Russell, 1993). Therefore, the application of the SCCT to this study can help us understand the relationship between urban agricultural science students' career development and self-efficacy and outcome expectations. According to Lent et al. (2001) the key variables of SCCT that include self-efficacy and

outcome expectations were developed in an attempt to explain how people are capable of asserting agency specific to self-development. Essentially, the SCCT helps to explain how these variables operate in conjunction with other areas of an individual and the contexts in which they influence or shape an individual's course for their career development. These contexts may include barriers that one faces, support systems, one's gender as well as culture (Kerka, 1998; Lent et al., 2001).

Outcome expectations can be described as one's view of the possible results of one's action as it relates to a particular end (Bandura, 1986). Based on the principles of SCCT the likelihood of individuals pursuing careers that they think will lead to positive outcomes (e.g. self- gratification, admiration, and gainful employment) is higher in comparison to careers that they think will lead to less positive outcomes (Lent, et al., 1994). Therefore, self-efficacy as well as outcome expectations are theorized to have a direct or indirect impact on individuals' educational as well as career choices and success (Lent, et al., 1994). Such indirect relationships are based on the impact of self-efficacy as well as outcome expectations on one's interest and exploratory behavioral pattern. Hence, when an individual has high self-efficacy as well as positive outcome expectations as it relates to a certain career, SCCT postulates that this leads to higher interests and exploratory behavioral patterns. These exploratory behaviors include but not limited to a student declaring his or her academic major as well as participation in workshops and other activities related to that particular academic major. Such action increases the likelihood that the student will eventually choose that particular career (Deigelman & Subich, 2001).

In addition, self-efficacy is postulated as that which has a unidirectional impact on outcome expectations. Studies that have applied self-efficacy theory to areas such as vocational psychology show that self-efficacy theory has been a major predictor of individuals' educational and vocational choices. These studies also support individuals' success in different fields which are consistent with the predictions of SCCT (Deigelman & Subich, 2001; Fouad & Smith, 1996; Lent, Lopez, & Bieschke, 1993; Sadri & Robertson, 1993). While smaller numbers of studies have investigated outcome expectations and vocational or career behavior, the existing research has made significant contributions. Such research provides strong support as it relates to the relationship between outcome expectations, interest formation, individuals' intentions as well as goal setting which were theorized by SCCT (Deigelman & Subich, 2001; Hackett et al., 1992; Lent et al., 1993; Fouad & Smith, 1996).

Further as it relates to the relationship between individuals and contextual variables within the process of career development, SCCT argues that several contextual variables may impact career choice process by means of three main pathways of influence. First, during the formative stages of educational and career development, the environment in which children live provides them with various learning opportunities, as well as resources and rewards. Such contextual affordances (Vondracek, Lerner, & Schulenberg, 1986) as well as the learning experiences and learning outcomes that children allow or discourage can help us understand their perceptions and competences towards a wide variety of vocational relevant activities. These contextual affordances

can also help us understand children's expected outcomes of these activities as well as their ultimate interest in these activities.

Second, during the stages of an individual's active educational and career goal decisions (such as choosing an academic major, choice of elective classes, apprenticeship and job training programs) there are specific contextual factors which may have direct impact on the individual's choice which sometimes overrides their personal ambitions. An example includes the restriction of individuals' options by economic situation or cultural contexts that are imposed by influential individuals. Third, other factors such as contextual supports and barriers are often viewed as regulating the processes where individuals translate their vocational interests into goals and those goals are then translated into actions. This is often based on the nature, the support of the environment, and the barriers that are perceived as it relates to specific choice (Lent et al., 2001).

Bandura (1999) commented on the relationship between individuals' and contextual effects on human behavior. He highlighted that most external influences often impact human functioning via intermediary self-processes and not directly. He argued that contextual influences (e.g. economic status and family situations) often impact individuals' behavior both directly and indirectly. And such effects are based on individuals' sense of efficacy, their aspirations, in addition to their affective self-regulatory factors (Bandura, 2000). Such arguments are consistent with the SCCT which states that contextual factors and their impact on choice behavior partially shape individuals' distal learning situations (Lent et al, 2001).

CHAPTER 2: REVIEW OF LITERATURE

Literature Search Methodology

An extensive search of the literature was carried out in order to examine the existing body of knowledge and research on Urban Agricultural Education programs and to identify areas or gaps in the literature that need further investigation. The initial search for relevant and reliable literature sources was conducted on Purdue University Library website. Drawing from the main objectives of the study, the researcher used key terms and phrases that include Urban Agricultural Education, Agricultural Education programs, Agricultural Education curriculum, agricultural literacy, agriculturally-related careers, urban students' perceptions of agriculture and urban agriculture. These and other key terms and phrases were used during the search for various articles, conference papers and databases.

Peer reviewed articles were gathered from several journals in the field of agriculture. The journals include: *Journal of Agricultural Education, Journal of Career and Technical Education, Career and Technical Education Research, North American Colleges and Teachers of Agriculture and Journal of International Agricultural Extension Education.* Several databases were identified and searched. These include Google Scholar, ERIC, ProQuest Dissertations and Theses database, JSTOR and Dissertation Abstract International. Upon searching these databases thousands of hits were found.

Many relevant resources were collected from this broad initial search however; in order to narrow the literature search, the researcher used a selected time span (1990-2010) as well as combined keys terms and phrases that were relevant to the main objectives of the study.

The researcher carefully selected articles that were relevant to the study from the list of resources that were identified. Prior to selecting each article, the researcher reviewed the abstract to ensure that the content was relevant and suitable for the study. Those articles that were deemed relevant were then saved on the researcher's personal laptop and flash drive. These articles were later read in details to obtain a comprehensive view of their content and suitability for the study. While many of the articles and resources were available electronically through the Purdue Library, others were only available in limited printed form. Some printed documents were available at Purdue Library, Purdue Technology Resources Center (TRC), while others were obtained through interlibrary loan. After all the resources were collected through the extensive literature search, a reference list was put together and formatted based on the sixth edition of the *American Psychological Association Publication Manual*. This allows the researcher to keep track of all the relevant resources to provide proper documentation and citation of all materials used in the study.

Introduction

Over the past 20 years Urban Agricultural Education has continued to gain increasing attention from the agricultural community. However, the development of

Agricultural Education programs in urban schools is not a new concept in the United States. Following the development of the first urban agricultural school in Philadelphia, Pennsylvania in 1952, the W.B. Saul High School of Agricultural Sciences, many other urban agricultural schools have been developed over the years in different parts of the country. Some of these include the Chicago High School of Agricultural Sciences that was developed in 1985 and the Science and Technology of Agriculture and its Resources Academy (STAR) that was developed in Indianapolis, Indiana in 1992 (Martin, 1995; Nelson, 2002; Russell & Trede, 1999).

In 1995 the Forum on Education in Agriculture in Urban Schools was developed in an effort to promote the growth and development of Urban Agricultural Education programs (Martin, 1995). There are many benefits that can be derived from the development of Urban Agricultural Education programs. One of the most important among these benefits is the ability to increase and diversify student enrollment in Agricultural Education programs at the secondary and postsecondary education levels. In addition, the development of Urban Agricultural Education programs can help to promote and increase agricultural literacy of urban populations (Wanner, 2006). An agricultural literate population is of vital importance in today's society because we need individuals who are knowledgeable about the agricultural industry to make policy decisions that will have positive impact on the industry (Borck & Bell, 2010; Bowen, 2002; Warner & Washburn, 2007b).

The Development of Urban Agricultural Education Programs

The development of Urban Agricultural Education programs in the United States is not a new concept. Since the 1990s however, Urban Agricultural Education has continued to gain increasing attention from the agricultural community (Nelson, 2002; Russell & Trede, 1999). With the rapid increase of urban student population, there is no doubt that the development of Agricultural Education programs in urban areas has a vital role to play in the effort to reach the goal of increasing the number of quality Agricultural Education programs to 10,000 by the year 2015 (Warner & Washburn, 2007b). The Walter Biddle Saul High School of Agricultural Sciences, located in Philadelphia, Pennsylvania, was established in 1952 and is the first Urban Agricultural school that was developed in the United States. Over the years many other Urban Agricultural Education programs have been established in different parts of the country. These include the Chicago High School of Agricultural Sciences established in 1985 and the Science and Technology of Agriculture and its Resources Academy (STAR) a magnet high school established in 1992 in Indianapolis, Indiana (Russell & Trede, 1999).

The establishment of magnet schools started in the 1970s in order to achieve voluntary school desegregation. These schools were established in order to attract White students who were from suburban areas into urban schools comprised of predominantly Black students (Martin, 1995; Nelson, 2002). Although magnet schools came about in the 1970s the development of urban magnet schools which focused on agricultural sciences began in 1988 through *Understanding Agriculture: New Directions for Education*, an initiative of the National Research Council. The establishment of urban magnet schools

for agricultural sciences is an effort to increase the number of urban students in Agricultural Education specifically, students from minority as well as non-traditional backgrounds (Talbert, 1996).

In addition to the development of magnet schools, charter high schools have been developed in many cities across the country. For example, in 1997 the Arizona Agribusiness and Equine Center was developed in Phoenix, Arizona. The establishment of charter schools started in 1992 in Minnesota as alternative schools. Charter schools are generally established by groups of people (e.g. teachers, administrators, parents, community leaders or local community-based organization) who may be associated with other school districts. The main objective of charter schools is to help to increase accountability within the school system as well as stimulate school reform through the introduction of competition within the educational system (Nelson, 2002). Charter schools function independently of the regular public school system and they do not have any school district boundaries (Russell & Trede, 1999).

Similar to the other Urban Agricultural Education programs across the country the main objective of these programs is to prepare students for successful careers in agriculture and related fields. In addition, these programs are designed to help increase the agricultural literacy of urban students, help urban students in the development of leadership skills, and help students to become productive citizens (Martin, 1995; Russell & Trede, 1999). Today, many other Urban Agricultural Education programs that have been developed over the years are located in several states across the country. These

include California, New York, Florida, Texas, Missouri, Louisiana, Wisconsin and Minnesota (Esters, 2004; Nelson, 2002).

In addition to the establishment of various Urban Agricultural Education schools the call to develop Urban Agricultural Education programs has been supported by many initiatives. These initiatives include: The U.S. Office of Vocational and Adult Education (OVAE) and the Forum on Education in Agriculture in Urban Schools (Bice, 1980; Esters & Bowen, 2004). The Office of Vocational and Adult Education initiative was developed in 1976 and was stimulated by changes in the demographic composition of the country. In recognition of the need to develop Urban Agricultural Education programs the Office of Vocational and Adult Education developed a strategy to assist in the alleviation of economic and employment problems in urban areas. This strategy included the development of guidelines for the implementation of improved vocational agriculture and agribusiness programs within urban communities. From this initiative a handbook was developed (Bice, 1980).

The handbook can be used by teachers, administrators, and supervisors as a reference for the development and implementation of vocational agriculture and agribusiness programs in urban high schools. The main areas of focus of this handbook include process and procedures that are useful in the planning and implementation of Urban Agricultural Education programs. In conjunction with information gather from the observation of several Urban Agricultural Education programs across the country the handbook highlighted eight fundamental areas of importance. These include planning and program initiation; administration; vocational instruction; staffing; equipment and

facilities; outreach/recruitment; student placement; and community involvement (Bice, 1980; Esters & Bowen, 2004).

The forum on Education in Agriculture in Urban Schools was developed in 1995 at Iowa State University (Martin, 1995). The main objectives of this initiative were to promote the growth and development of Agricultural Education programs in urban schools. There were six main goals of this forum. These include:

1. To provide the opportunity for leaders involved in education in agriculture located in non-traditional settings to share their program successes and challenges and develop a professional network.

2. To discuss educational and career opportunities and how to communicate these opportunities to students.

3. To design strategies to increase the number of educational programs in agriculture in urban settings.

4. To provide research that will assist schools in determining future curriculum choices.

5. To assist schools in developing marketing plans for their agricultural programs.

6. To plan the national leadership in assisting agricultural science classes to receive science credits (Martin, 1995, p.3).

Since the development of the forum in 1995 it was held annually until it ended in 2001. The forum provided opportunities to learn about existing Urban Agricultural Education programs as well as provided information about the future of Urban

Agricultural Education programs. Many of the people who participated in this forum over those years included administrators, educators from high schools and universities, local, state and federal officials, as well as many other stakeholders (R. Martin, personal communication, January, 19, 2011).

In addition to these initiatives that have been organized to help in the development of successful Urban Agricultural Education programs, several other important factors have been identified. In a study conducted by Soloninka (2003), three factors key to the development and support of Urban Agricultural Education programs have been identified. These include community support and partnerships, support from school staff and administration, and active engagement of families (Blondrage 2009; Karstens, 2005; Soloninka & Connors, 2003; Tran, 2010). In their study, Borck (2010) and Borck and Bell (2010) found that marketing is a vital component of successful development of Urban Agricultural Education programs. They also proposed the use of agriculture as a context for teaching other subjects. This is considered to be a viable method of developing Urban Agricultural Education programs.

Urban Agricultural Education Programs: Barriers and Constraints

The term urban school is a phrase that is often associated with a vast number of educational and social barriers. These barriers include overcrowded classrooms, transient school populations, diverse cultures and languages and an emphasis on survival. Other educational and social barriers that urban schools encounter include a lack of public support, inadequate facilities, lack of funding, fragmented family structures, uninvolved

parents, poverty, as well as unresponsive students (Whaley & Lucero, 1993). Although these barriers affect other schools in rural and sub-urban communities, they are more prevalent in urban communities. Over the years, many research studies have shown that urban schools face multiple challenges. In addition, research also identified challenges faced by teachers in urban schools (Warner & Washburn 2009; Whaley & Lucero, 1993). With limited resources, increasing student populations and large student enrollments in urban schools, it is inevitable that the lack of needed resources will have a negative impact on the urban school environment.

While the challenges associated with the demographics of urban students are numerous, increasing student population and large student enrollments in urban schools are also common issues. When compared to rural schools urban schools have a higher student to teacher ratio. Classrooms that have high student to teacher ratios can lead to students' lack of connection with their teachers that can result in feelings of anonymity and low student educational outcome. In addition to the negative impacts that high student enrollments can have on students' educational outcome, teachers and administrators are also affected. It is reported that as school population increases administrators and teachers, tend to become less effective because they teach in poor facilities that have limited supplies and resources (Warner & Washburn 2009).

Based on the number of challenges and barriers associated with urban school settings it should not be surprising that the recruitment and retention of teachers in urban schools has become a major problem. Many urban schools are faced with the challenge of a high teacher turnover rate. Nationally, about half of the new teachers leave their jobs

within the first six years of employment. While in urban schools teachers tend to leave their jobs in the first five years. However, in some urban schools new teachers leave within the first three to four years. With this high teacher turnover rate many urban classrooms have had several different teachers within a single academic year. In addition to the educational and social barriers that impact the recruitment and retention of teachers for urban schools, urban schools have difficulties in recruiting teachers into their programs because other school districts are offering higher salaries, better working environments and facilities, as well as less challenging and stressful student populations. With the many challenges associated with urban schools, the goal to increase the number of Urban Agricultural Education programs may be threatened (Warner & Washburn 2009).

Another challenge identified that is affecting Urban Agricultural Education programs is the preparation of pre-service teachers to work with diverse populations. Many of these prospective teachers are not familiar with urban programs and school environments. In their study Webster and Hoover (2006) argued that with increasing diversity within our society, it is vital that educators provide different types of experiences for pre-service teachers in order for them to be effective, and engage in a multicultural society. The way in which higher education institutions prepare their students is important in helping them to become productive citizens. However, many educators have raised questions about how this can be accomplished effectively. Talbert and Wakefield (1999) argued that teachers must be competent in working with individuals with different cultures and languages. They also argued that faculty and

students in agricultural education programs should be prepared to work with diverse populations. Several new teachers who are assigned to urban classrooms have never worked with students from diverse backgrounds. In a study conducted by Wakefield, Talbert, and Pense (2006), they found that pre-service teachers who participated in their study were not adequately prepared or exposed to diversity whether through their university preparation or field experiences.

One of the ways that educators can help their pre-service teachers to engage and interact with others who are different from themselves is through service learning programs. Service-learning programs have been identified as a positive medium through which prospective teachers can become more involved in a multicultural environment where they can learn about different cultures (Webster & Hoover, 2006). Talbert and Edwin (2008) conducted a study that examined the preparation of pre-service teachers in working with diverse audiences. The result of the study showed that pre-service teachers enrolled in Agricultural Education programs are exposed to early field experiences and teaching environments where they interact with people from diverse backgrounds.

The issue of diversity, as it relates to Urban Agricultural Education programs, has many dimensions. While some studies have been conducted on the preparation of pre-service teacher and faculty to work with diverse audiences, (Talbert & Edwin, 2007, 2008; Wakefield & Talbert, 1999; Wakefield, Talbert, & Pense, 2006; Webster & Hoover, 2006) other studies have investigated the extent to which diversity inclusion is promoted in secondary Agricultural Education programs.

In studies conducted by Warren and Alston (2004; 2007) on diversity inclusion at the secondary school level, the participants agreed that there are many benefits to diversity inclusion. Some of the benefits identified include leadership development as well as the development of character skills of minorities and women. Additional benefits that were identified include the development of students' critical thinking skills. While diversity inclusion at the secondary school level has many benefits, several barriers were also identified. Teachers identified several barriers which impact diversity inclusion. These include prejudicial issues, minority and women perceptions of agriculture and stereotypes. In addition, the results showed that guidance counselors tend to have a big impact on the involvement of ethnic minority and women in agriculture program. The establishment of collaborative partnerships with guidance counselors, teacher reflective practices, the development of multicultural trainings, and the development of diversity evaluation strategies are some of the areas that were identified as important for development (Warren & Alston, 2004, 2007).

Another area of diversity that has been investigated is the issue of women in Agricultural Education programs. According to Foster (2003), in a field traditionally male dominated, many artificial barriers are related to attitudinal biases that often inhibit the ability of highly qualified women in reaching their full potential. In addition, the delayed entrance of women in agriculture has resulted in only few role models for younger women who are entering the field. Although the number of women who are entering the field has increase slightly over the years (Larke, Alexander-Flinn, & Falconer, 1992) a ratio of one woman to six men is still very low. Some of the barriers

that have been identified may have contributed to such low number of women in the field include issues related to gender, peer acceptance, the need to balance family and career as well as many other barriers (Foster, 2001; Seevers & Foster 2003).

Agricultural Literacy of Urban Students

As urban populations continue to increase, fewer people are living on farms and many American students are growing up without the basic knowledge of agriculture. According to Mabie and Baker (1994) many children stated that food comes from the store when they were asked to identify their food sources. Over the years many studies have examined the agricultural literacy of students and teachers in various states across the United States. The findings from these studies showed that in many cases rural students and teachers had very little knowledge about agriculture however, urban students were least knowledgeable about agriculture (Frick, Birkenholz, Gardner & Machtmes, 1995; Hess, 2010; Terry, Herring & Larke, 1990).

Due to the lack of knowledge and understanding about agriculture, many agricultural educators and other members of the agricultural community are constantly trying to find new ways to introduce the younger generation to agriculture. Beginning at the elementary level many teachers are trying to find different ways to engage their students to participate in hands-on science learning. Many students enjoy participating in hands-on learning activities that enhance their learning as well as improve their science process and critical thinking skills. Hands-on learning is a critical component of

Agricultural Education therefore; it is a great area that can be used as a context for teaching science and other areas (Anderson, 2007; Mabie & Baker, 1994).

In an effort to increase the agricultural literacy of our society, we must have a clear understanding of what agricultural literacy means. Agricultural literacy is defined by Frick, Kahler, and Miller (1991), as the knowledge and understanding of the food and fiber system. They argued that a person who has such knowledge should be competent in synthesizing, analyzing and communicating basic information about agriculture. This includes information about plant and animal production; the importance of agriculture from a global perspective; the processing, marketing and distribution of agricultural services and products; the economic importance and impact of the agricultural industry to our society and its relationship with other areas such as the environment and natural resources.

It is vital that students develop an accurate knowledge of the agricultural industry, its importance and value to our society and the career opportunities that it offers. This is particularly important for urban students who seem to have little or no agricultural experiences. Therefore, teachers should assist urban students in developing their knowledge and understanding of the agricultural industry and the important role that it plays in our society (Frick et al., 1995). The development of Urban Agricultural Education programs has a vital role to play in ensuring that urban students become knowledgeable about the agricultural industry. These programs can also help to improve urban students' perceptions of agriculture. The use of introductory Agricultural Education courses can help to increase the agricultural literacy as well as change

students' negative perceptions about agriculture. Introductory Agricultural Education courses tend to have large numbers of student from diverse backgrounds who have various career goals. Therefore these courses can be used as a medium to help increase agricultural literacy. Since these students are future leaders and policy makers they must understand how their decisions will impact the agricultural industry and will ultimately impact their health and well-being as well as the environment in which they live (Reidel, Wilson, Flowers & Moore, 2007).

In a study conducted by Mabie and Baker (1994) on the agricultural literacy of urban elementary students in Los Angeles they found that the participants of the study had very little knowledge about agriculture. Only a few of the students were able to provide a basic description of the term agriculture and other agriculturally-related terms. The students were not aware of the various careers in agriculture. However, after their participation in a ten week gardening project they had a better understanding of agriculture. The results of this study are consistent with other similar studies conducted on the agricultural literacy of urban students before and after their participation in intervention programs (Beckman & Smith, 2008; Fraze, Wingenbach, Rutherford & Litzenberg, 2009; Reidel, 2006; Settle, Doerfert, Burris & Akers, 2009).

Pense, Beebe, Leising, Wakefield and Steffen (2006) conducted a study to determine the agricultural literacy of urban, sub-urban and rural high school students. The study found that rural students were more knowledgeable about agriculture than urban and sub-urban students. Many other studies also found that urban students lack the basic

knowledge and understanding about agriculture (Hess, 2010; Smith & Park, 2007, 2009; Trexler, 2000).

Urban Students Perceptions of Agriculture and Agriculture Careers

One of the issues identified over the years that has a significant impact on agriculture is the agricultural literacy of our nation. This is an important issue because with the small number of agricultural programs that are been offered in schools, many of our youth are growing up with limited knowledge of agriculture. With this ongoing trend, the lack of knowledge about agriculture has continued to create and perpetuate negative stereotypes about agriculture and agricultural careers. In order to help students develop a positive attitude towards agriculture and agricultural careers, it is imperative that we understand how the school environment, as well as, the education programs that they offer impact students' perceptions about agriculture and agricultural careers (Smith & Park, 2007, 2009).

According to Hoover and Houser (1991), perception is reality therefore, if students' perceptions of agriculture and agricultural careers are related to farming, manual labor, low income and unstable employment opportunities, then their interest in pursuing education and careers in agriculture will be low. In a study comparing the agricultural literacy and stereotypes that exist among urban and rural students who attend schools with or without agricultural education programs, Smith, Park, and Sutton (2007) found that the students who attended schools that have agricultural education programs

had more negative perceptions about agriculture. Many other studies have been conducted on students' perceptions of agriculture and their results showed varying levels of stereotypes about agriculture and agricultural careers. For example, a study conducted by Bechtold and Hoover (1997) on the perceptions of agriculture and the barriers to higher education among Hispanic and non-Hispanic students in South Florida showed that Hispanic students had more negative perceptions of agriculture when compared to non-Hispanic students. The study also shows that Hispanic students are least interested in pursuing higher education and careers in agriculture. Many different intervention programs have been used to increase the involvement of Hispanic students in agriculture. For example, in Texas, Roberts et al. (2009) found that the enrollment of Hispanic students in Agricultural Education programs and FFA increased after students, parents and teachers participated in various agricultural and FFA activities as well as field-based experiences. Anderson, Torres and Ulmer (2007) and Anderson and Kim (2009) found that urban students view leadership as important and FFA and other agricultural activities help to enhance students leadership skills.

In addition Talbert and Larke (1993, 1995b) found that minorities tend to hold less positive perceptions about agriculture when compare to their non-minority counterparts. On the other hand, White, Stewart and Lindhardt (1991) found that most of the urban students who participated in their study had positive perceptions of agricultural careers, similarly Sutphin and Newsom-Stewart (1995) found no significant differences in perceptions about agriculture based on gender or ethnic backgrounds. Further, a study conducted by Talbert (1996) about urban high school students' attitudes toward agriculture showed that one-fourth of the participants plan to pursue careers in agriculture

after they graduate, while about one-third of the participants intend to pursue careers in agriculture at some point in their lives. The results of the study supports the findings of Talbert's (1997) study comparing urban high school students' attitudes towards agriculture based on enrollment, gender and minority status. The results of the study showed that most of the students were from urban communities with limited prior agricultural knowledge or agricultural experience, and a higher number of sophomores planned to pursue agricultural careers in comparison to freshmen. It also supports the findings of Talbert's (1999) study that examined the attitudes of STAR Academy agriculture science and business students toward agriculture. The results of the study showed that a larger percentage of sophomores planned to take on agricultural careers as opposed to freshmen and juniors.

The minority population is increasing at a rapid rate therefore; the recruitment of students from diverse backgrounds is a major goal of many colleges and universities across the country. Many universities have found it challenging to recruit minority students into their undergraduate agricultural programs. As a result, many strategies such as the development of pre-college workshops and summer programs have been recommended to help in attracting students from diverse backgrounds. A study conducted by Wiley, Bowen and Bowen (1998) to determine the impact of a summer pre-college workshop on students' knowledge and attitude towards agriculture, showed that students' knowledge was increased after their participation in the workshop and they maintained positive attitudes about agriculture that was evident a year later. Although minority enrollment has shown slight increase over the past few years, these underrepresented

groups are still trailing behind their non-minority counterparts and this has contributed to the lack of college educated individuals in the agricultural industry from minority backgrounds (Fraze et al., 2009).

Minorities and students from urban areas are viable populations that should be targeted for recruiting students for colleges of agriculture. To help in increasing the number of underrepresented students in colleges and universities, the federal government has allotted funds for those institutions that are committed to expanding their recruitment efforts in order to increase the number of underrepresented students into their programs. Such efforts can help to make the agricultural student population more diverse (Gilmore et al., 2006; White et al., 1991).

While Agricultural Education is important at the secondary level it is critical that students are exposed to agriculture at the elementary school level. The importance of introducing elementary students to agriculture in the United States has been highlighted for many years. Agriculture has basic elementary concepts and principles that everyone should be aware of which is similar to the more popular sciences like chemistry, botany, physics and physiology (Wagler et al., 2007). Elementary education should include basic agricultural principles. This is important because it will help students to develop positive attitude and perceptions towards agriculture at an early age as well as help them to become informed leaders. By the time students get to middle and high schools their perceptions about agriculture are already developed. Therefore, their exposure to Agricultural Education programs should start at the elementary level (Nordstrom et al., 2000). When children are presented with information at an early age, they will grow to

become more receptive in accepting and applying such information throughout their lives. Hence, one of our goals should be to create agricultural curriculum for elementary students that may have a long term impact on them (Terry, Herring & Larke, 1990; Wagler et al., 2007).

The review of the literature revealed several studies conducted on elementary students' and teachers' knowledge and perceptions of agriculture (Mabie & Baker, 1996; Terry et al., 1990; Trexler, 2000; Wagler et al., 2007). According to Mabie and Baker's (1996) study on the effect of agricultural-oriented experimental instructional strategies on urban elementary school student's science process skills, agricultural-oriented instructional strategies has positive effects on the development urban students' science process skills. Additionally, Terry et al. (1990) study on the assistance needed for the implementation of agricultural literacy programs in Texas elementary schools showed that elementary school teachers had inadequate knowledge about agriculture as well as inaccurate perceptions about agriculture. Further, Trexler (2000) examined urban and sub-urban elementary school students' knowledge of agriculture. The results of the study indicated that urban students lack the knowledge and understand of basic agricultural concepts.

Urban Agricultural Education Curriculum

Urban Agricultural Education programs can be defined as those that are situated in urban or metropolitan areas. Students who are enrolled in urban high school Agricultural Education programs are exposed to formal instruction that is comprised of

three main components. The components include classroom and laboratory instruction, FFA and Supervised Agricultural Experience (SAE) (Esters & Bowen, 2004; Soloninka & Connors, 2003; Whaley & Lucero, 1993). Whaley and Lucero (1993) highlighted the importance of supervised agricultural experience in urban and semi-rural high schools and identified several barriers to successful implementation of supervised agricultural experience programs. They stated that supervised agricultural experience is a vital component of Agricultural Education programs that is evident by the "learning by doing" Agricultural Education motto. Supervised agricultural experience is important because it helps to bridge the gap between what is taught in the classroom/laboratory and the knowledge and experience that is gained from the field. Such experiences help to enhance students' knowledge and understanding of agriculture. Some of the main barriers to successful supervised agricultural experience programs that were identified in Whaley and Lucero's (1993) study include: students failure to complete their programs due to frequent relocation of families; broken homes and lack of proper role models; high rates of crime and violence in communities and school. Other barriers that were identified are: overcrowding; faulty perceptions of agriculture, and agricultural careers; and lack of adequate facilities and equipment.

According to Trede and Russell (1999) Agricultural Education curriculum has been going through a constant transition. With the changing needs of various businesses and industries it is of vital importance that the Agricultural Education curriculum continues to change in order to reflect those needs. Some of the areas that should be included in the curriculum in order to reflect these changes include business

management, computer science, leadership development, and personal development. In addition, when developing Agricultural Education curricula, the learning styles of the students must be taken into consideration. This is important because studies have shown that Agricultural Education students are more receptive to working in small groups and participating in hands-on activities (Cano 1993; Rollins & Scanlon, 1991). The way in which the curriculum is developed and delivered may also be impacted by teaching as well as personality styles because some teachers tend to teach their students in the same way they were taught (Cano 1993; Rollins & Scanlon, 1991). Another area that has been highlighted in developing Urban Agricultural Education curriculum is the integration of Agricultural Education into other courses (Borck & Bell, 2010). Students that have been taught with an integrated problem-solving curriculum demonstrated higher academic performance at the college level in comparison to those who were taught with subject centered curriculum (Trede & Russell, 1999).

Although it is important for the Agricultural Education curriculum to reflect the changing needs of businesses and industries, a study conducted by Foster, Bell and Erskine (1995) found that local educators tend to have a resistant attitude towards curriculum change while principals were more supportive towards these changes. While many studies have been conducted on various areas of Urban Agricultural Education, much more research is needed based on existing gaps in the literature. Some of the areas that have been investigated include urban students' perceptions of agriculture and agricultural careers (Anderson & Kim, 2009; Fraze et al., 2009; Frick et al., 1995; Hoover & Houser, 1991; Settle et al., 2009; Smith & Park 2009; White et al., 1991). The factors that influence enrollment and career choices of urban students have been

investigated by several researchers (Esters, 2003, 2005, 2007a, 2007c; Esters & Bowen, 2004, 2005; Jones & Bowen 1998; Jones & Larke, 2001, 2003; Marshall, Herring & Briers 1992; Reis & Kahler, 1997; Talbert & Larke, 1993; Tracy, 1999). Agricultural literacy is an area that is also widely researched. The agricultural literacy of urban students has been investigated by several scholars in the field. Many studies found that urban students have little or no knowledge about agriculture (Beckman & Smith, 2008; Hess, 2010; Mabie & Baker, 1994, 1996; Pense et al., 2006; Reidel et al., 2007; Trexler, 2000). However, more research needs to be done to find new ways of increasing agricultural literacy at various education levels.

In addition many other key areas such as urban high school students attitude towards agriculture has been examined (Talbert, 1996, 1997, 1999; Wiley, Bowen & Bowen, 1998). Over the years the issue of diversity in agricultural has been a much-discussed topic. Diversity issues in Agricultural Education have also been examined by various researchers (Bowen, 1993; Roberts et al., 2009; Talbert & Edwin, 2007; Wakefield & Talbert, 1999; Wakefield et al., 2006; Warren & Alston, 2004, 2005, 2007). Finally, issues related to teachers of Urban Agricultural Education courses have also been investigated. Research on issues facing Urban Agricultural Education teachers have been conducted by Warner and Washburn (2006, 2007a, 2009); Whaley and Lucero (1993) as well as many other researchers. Despite this large pool of researchers on various issues related to Urban Agricultural Education there is still a need for more research in other areas such as issues related to Urban Agricultural Education curriculum and effective ways to deliver these programs (Russell, 1999; Warner & Washburn, 2007c).

Based on the results of a study conducted by Trede and Russell (1999) on perceptions of stakeholders towards linkages and curriculum in Urban Agricultural Education programs they concluded that when developing curriculum for Urban Agricultural Education programs more emphasis should be placed on areas such as hands-on activities, global perspectives as well as professional development. These three areas were rated by the participants of their study as important components of a good Urban Agricultural Education curriculum. In addition, the participants rated supervised agricultural experience activities, science-based curriculum as well as college students' education needs as moderately important. The areas that the participants of the study identified as most important when developing Urban Agricultural Education curriculum, were agricultural business management, leadership, biotechnology, food science and environmental science. They also indicated that information management is the area that will be the most important in the years to come. The areas that the participants identified as less important were traditional production agricultural skills related to farm management and agricultural mechanics.

Russell and Trede (1999) conducted further study in an attempt to develop a curriculum model for Urban Agricultural Education programs. The model was developed to reflect the needs that were identified by Urban Agricultural Education program stakeholders. These stakeholders include participants (educators, faculty, and other interest groups) of the forum on education in agriculture in urban schools that was held in 1998. Some of the needs that were identified include the development of a strong advisory committee, the development of an Urban Agricultural Education curriculum that

emphasizes hands-on activities, professional development and the global scope of agriculture. The proposed model is comprised of a continuous flow of processes and evaluation at three stages that include input (determine students/curriculum needs, evaluate), process (identify/develop learning objectives and activities, evaluate) and product (finalize curriculum and identify evaluation criteria). The design of the model was guided by five main principles that include simple and easy to use; adaptable to various school settings; allows for constant revision and modification of curriculum; design includes evaluation; and the use of evaluation that can identify problems in order to make necessary changes (Russell & Trede, 1999).

Warner and Washburn (2007c) conducted a study to examine the curriculum that is used in Urban Agricultural Education programs and the incorporation of supervised agricultural experience and FFA in these programs. The results indicated that many of the participants of the study believed that a student centered curriculum was important. They identified areas such as food science and biotechnology as important components of Urban Agricultural Education curriculum. The participants also indicated that there is a need for consumer-based programs which focus on the scientific areas of agriculture. These areas were also identified as important in the study conducted by Trede and Russell (1999). Students' participation in FFA and supervised agricultural experience varied across the nine schools that were included in the study. While some programs required participation in supervised agricultural experience others programs did not require participation in supervised agricultural experience. The participants stated that advisory boards that consist of individuals from local business and industries could play a

vital role in helping teachers in identifying suitable locations for supervised agricultural experience activities (Warner & Washburn, 2007c).

Urban Students Enrollment and Career Choices in Agriculture

As the world population continues to expand, the agricultural industry is faced with higher demands for food, fiber and natural resources. In order to continue to meet this demand agricultural institutions have a critical role to play in the education and training of individuals so that they can develop the skills and expertise that is required in the agricultural industry. The agricultural industry in the United States has a lot of employment opportunities and is a major employer of the nation's workforce. However, the demands for graduates who are from minority groups that are trained in agriculture and related fields have continued to exceed supply. With an increasing minority population, recruitment efforts must be directed toward minority to increase the number of students enrolled in Agricultural Education programs across the country (Jones & Larke, 2003).

There are many factors that contribute to students' enrollment in secondary and postsecondary Agricultural Education programs. In order to increase the number of students who enroll in Agricultural Education programs, educators need to develop an understanding of the factors that impact students' enrollment. This will help to improve recruitment strategies as well as improve programs to serve more students (Reis & Kahler, 1997). Over the years students' enrollment in Agricultural Education programs

has been a major issue. This is so because many Agricultural Education programs are comprised of mainly White students. Therefore, there is a need to increase the number of minority students in Agricultural Education programs (Marshall et al., 1992). According to Talbert, Larke and Jones (1997) colleges of agriculture need to do a better job in the recruitment and retention of underrepresented populations. They proposed the development of programs that provides information about the opportunities available in the agricultural industry.

Several studies have been conducted that identifies some of the factors that impact minorities' enrollment and careers choices in agriculture (Esters & Bowen, 2004, 2005; Jones & Bowen, 1998, 2003; Marshall et al., 1992; Talbert & Larke, 1993; Talbert et al., 1997). Esters and Bowen (2004) found that parents had the biggest influence on students' enrollment in Urban Agricultural Education program. The mother or female parent had a bigger influence on students' enrollment decisions when compared to the father or male parent. Friends also influenced student enrollment decisions but to a lesser extent. Students indicated that their interest in animals also influenced their decisions to enroll in Urban Agricultural Education programs. These findings are congruent with those of Reis and Kahler (1997) and Esters (2005, 2007b).

Jones and Bowen (1998) identified other factors that influence minority students' enrollment in Agricultural Education programs. The result of their study indicated that the attitudes of agricultural science teachers towards their students and teaching played a big role in students' enrollment in agricultural science courses. Teachers who had a good relationship with their students had higher numbers of African-American students

enrolled in their courses. Also programs that used science- based curricula and high technology had more African American students enrolled in them. In addition, the schools that had African American teachers in their Agricultural Education programs had larger number of African American students. Therefore, having African American teachers in Agricultural Education program can help to increase the number of African American students who enroll in those programs. This finding is supported by Jones and Larke (2001, 2003) who found that having people of color can help to encourage minorities to pursue careers in agriculture and related fields. Tracy (1999) argued that one of the factors that impact the enrollment of African American in Agricultural Education is their negative perceptions about agriculture. This is so because students equate agriculture with farming and as undesirable employment options with low salaries. He noted that intervention programs should be developed to improve students' perceptions about agriculture.

Marshall et al. (1992) found that although many changes were made to secondary Agricultural Education programs, in Texas minority students' enrollment was still very low (23%). In addition, the study indicated that students enrolled in agriculture science and FFA because of the activities and characteristics of agricultural science classes. The study also indicated that agriculture science classes help to enhance students' identity which includes positive adolescence development as it relates to their values, future and relationships with their teachers. From the review of the literature, it is quite evident that several critical issues that impact the development of Urban Agricultural Education have been examined. Many of these issues are still relevant today and warrant the need for continued exploration and research. The results from new research can help to develop

new strategies to increase the enrollment and success of agricultural education students at the high school and college levels. Hence increase the number of competent professionals who work in the food, fiber and natural resources industry.

CHAPTER 3: RESEARCH METHODOLOGY

Research Design

This chapter gives an overview of the methodology that was employed in conducting this study. The chapter outlines how the data were collected from the participants and the process that was used to analyze the data. The contents of the chapter are organized in the following sequence: Theoretical framework; the purpose of the study; description of site and participants of the study; recruitment procedure for participants of the study; Institutional Review Board; researcher as the data gathering instrument; methods that were used to collect the data as well as the types of data that were collected from the site and participants; techniques and procedures used to analyze the data based on the objectives of the study and the theoretical framework that guides the study; validity and reliability; and trustworthiness of data.

Theoretical Framework

The theoretical framework that was used in conducting this study is phenomenology. This theoretical framework is one of several types of approaches used in conducting qualitative inquiry. According to Bogdan and Bilken (1998) phenomenological researchers attempt to gain an understanding of the interactions and events among ordinary people and what those interactions and events mean to those

people in particular situations. As such, phenomenological researchers do not make assumptions about what things mean to the participants of their study. Phenomenological researchers emphasize the subjective nature of their participants' behaviors (Creswell, 2007; Moran, 2000; Moustakas, 1994). Phenomenologists try to get into their participants conceptual world (Moustakas, 1994). This allows them to understand the meanings that are constructed about events in people's day-to-day lives and how those meanings are constructed by those people. Phenomenological researchers focus on what people have in common while they experience a particular phenomenon. In addition, they give description of the experience of a particular phenomenon based on what and how people experience the phenomenon (Creswell, 2007; Moran, 2000; Moustakas, 1994).

According to Van Manen (1990) the phenomenological approach to research is one that constantly questions the way people experience the world and seeks to find out the world in which people live as human beings. Therefore, in order to know the world one must be a part of the world in a particular way that involves researching, questioning and theorizing. These are considered to be intentional actions towards attaching oneself to the world and becoming a full part of the world. In phenomenology such a close relationship with the world is referred to as intentionality. When conducting research, the phenomenological researcher questions the secrets as well as the intimacies of the world that helps to bring the world into being. Qualitative research is also a caring act and it seeks to find out what is most important to being. This is important because in order to understand something or someone we must care about them (Van Manen, 1990).

Justification for Use of Theoretical Framework

Phenomenology appeals to the immediate and common experiences of humans so that a structural analysis about the most common, the most obvious, as well as what is most familiar to us can be conducted. A structural analysis involves describing how the phenomenon that is being studied was experienced by the participants of the study (Creswell, 2007). The objective is to create an animating and evocative description or text of people's intentions; their experiences, actions as well as their behavior as the phenomenological researcher becomes more familiar with them in the lifeworld (Van Manen, 1990). According to Merleau-Ponty (1962, p. 7), "phenomenology is the study of essence." However the term essence should not be confused, because the word essence does not imply some form of mysterious discovery, neither does it refer to the ultimate core or the residue of meanings. Instead, the word essence can be understood in terms of a linguistic construction or a description of a phenomenon (Merleau-Ponty, 1962). As such a good description that captures the essence of a phenomenon is one that is done in a way that the structure of the lived experience is exposed so that people can understand the nature as well as the importance of the experience (Merleau-Ponty, 1962).

When a phenomenological researcher examines the essence of a particular phenomenon or the lived experience such investigation is not different from an artistic venture. It is a creative effort in order to capture a particular phenomenon of life by means of a linguistic description, one that is holistic as well as analytical; unique as well as universal; powerful but sensitive and precise as well as evocative (Van Manen, 1990). As a result in order to determine if a particular topic is appropriate for conducting a

phenomenological inquiry one must question the essential structure and nature of the lived experience which is a particular way of being a part of the world. Phenomenological research is characterized by its twofold character which includes its preoccupation with concreteness and the essential nature or the ontology of the lived experience (Van Manen, 1990).

The phenomenological approach has been widely used in education and social science research (Creswell, 2007; Patton, 2002). According to Ostergaard et al. (2008), phenomenology has great potential for studying educational settings and learning as a whole. The application of the phenomenological approach in conducting this study allowed the researcher to obtain rich descriptions through in-depth interviews which provided a deeper understanding and knowledge of urban high school students and teachers as they share their experiences about career development based on their academic programs as well as socio-cultural and other factors that impact students' decisions in pursuing higher education and careers in agriculture and other related fields. In addition, the goal of phenomenological research is to examine an individual or group experience of a phenomenon and to shed light on how the individual or group views such phenomenon (Patton, 2002). This overarching goal of the phenomenological approach is strongly related to the main objectives of this study which was to examine the lived experience of students, teachers and administrators as they reflect on various aspects of their Agricultural Education program and the unique issues and challenges that are common among urban schools.

Purpose of the Study

The purpose of this research was to examine the framework that was used at an urban charter high school in the preparation of students for higher education and careers in agriculture and related fields. The study specifically examined administrators' perceptions about incorporating agricultural science courses into urban school curricula; the difference between teaching agricultural science in urban charter school in comparison to traditional rural public school; urban students' perceptions about higher education and careers in agriculture; and the main factors that contributes to students' decisions to take agricultural science classes as opposed to taking other optional classes.

Research Questions

The study provides answers to the following research questions:

1. How do administrators view the infusion of agricultural science courses into urban school curricula?
2. How do urban students view higher education and careers in agriculture?
3. Why do urban students choose to take agricultural science courses as opposed to other optional courses?
4. How does teaching agricultural science in an urban charter school differ from rural school?

Description of School Site

The study was conducted at an urban charter high school in a large Midwestern U.S. city. This school was purposefully selected to be included in this study because of the unique perspective that this institution could provide to the study. In addition, since many of the studies that have been conducted on secondary level Urban Agricultural Education Programs were conducted in traditional high schools, the study of an Agricultural Education Program within a charter school setting can provide new knowledge about how to incorporate and develop Agricultural Education Programs outside of traditional high school settings. The central tenet of conducting purposeful sampling is based on the ability to select information-rich participants for the study. Information-rich participants are then studied in-depth to provide rich thick descriptions about the issues that are critical to the overall purpose of the study (Geertz, 1973; Patton, 2002).

The school served grades 9-12 and was in its fifth year since its establishment and approval in 2006. The school was made up of a diverse population of students and staff. There were approximately 60% African American; 35% White; and 5% Asian and Hispanics students enrolled during the fall semester when the data were collected. The mission of the school "is to provide an academically rigorous high school experience that allows students, especially students who might not thrive in a traditional high school setting, to earn college credit while in high school" (K12academics, 2010). Along with this philosophy of the early college high school program as well as the state educational standards, the curriculum used at this charter high school is in conjunction with those

standards. Students who are enrolled at this charter high school are required to meet certain curriculum standards such as successfully complete four "gateways" before graduation (K12academics, 2010).

These "gateways" include presentations which are done by students to demonstrate their progress towards specific goals. The students are also given the opportunity to pursue career and technical courses which provide the basis for those "pathways" with a combination of high school courses as well as more advance level courses at a local community college in the state where the school is located. This charter high school was developed particularly for first generation college students in their families who have the potential to succeed in college. This type of educational environment provides small educational settings which offer non-traditional learning programs for their students.

The goal of the school "is to encourage and support students who desire to be successful in their educational pursuits but need a strong support system, with teachers who challenge them in a personalized way that addresses their strengths while minimizing their weaknesses" (K12academics, 2010). With the seventh highest graduation rate in the metropolitan area where the charter school is located, this school helps students transition smoothly into post-secondary educational institutions. The school also assists with the payments of tuition for students enrolled in the college courses which take a major burden off parents in finding these tuition payments (Charter Schools, 2010; K12academics, 2010; SEC, 2010).

Description of the Participants

The participants of the study included administrators (one executive director/principal, one agricultural science teacher, one member of the school board), and seven agricultural science students. During the fall semester when the data were collected for this study the school had a total enrollment of 200 students. From the 200 students that were enrolled in the school a total of 90 students (45%) were taking at least one agricultural science course. A total of three agricultural science courses were offered at the school at time of the data collection. These courses include a two semester advanced-level agricultural science course called Advanced Life Science: Plant and Soil Science; a two semester introductory course called Introduction to Agriculture, Food, and Natural Resources; and a career pathway course called Horticulture.

Overview of Courses

The Advanced Life Science: Plant and Soil Science course provided students with the opportunity to obtain dual credit. Since this is an advanced level course, students who are interested in taking it must have already taken Chemistry and Biology in order to have the strong science foundation to build on. Upon successful completion of the post-secondary requirements and dual credit requirements students can obtain two high school science credits towards their diploma and four college credits. The Advanced Life Science: Plant and Soil Science course covers a wide cross section of topics and allows students the opportunity of participating in various activities such as laboratory and field

work. Students who are enrolled in this course are exposed to various theories, concepts, as well as principles of plants and soils. Students also obtain knowledge and understanding of agricultural, as well as horticultural practices. In addition, students learn how to classify plants; learn about plants growth, development, function and plant reproduction; learn about plant genetics; how human use plants; the evolution and function of plants within the ecosystem; and how the soil impact plants growth and development (Indiana Department of Education, 2011).

The Introduction to Agriculture, Food, and Natural Resources course is a prerequisite course for more advanced level agricultural science courses. The objective of this course is to introduce students to the basic agricultural science and business practices. Some of the main components covered in this course are: careers in agriculture; agricultural leadership; agricultural business and management; food science; horticulture; animal science; Supervised Agricultural Experience (SAE); plant and soil science; landscaping; agricultural technology, structure and power; as well as natural resources. The Horticulture course is not a fully developed horticultural science course therefore, it is offered once per week and is used to provide supplemental and enrichment information to support the Advanced Life Science: Plant and Soil Science course and the Introduction to Agriculture, Food, and Natural Resources course.

Recruitment Procedure for Participants

The school was contacted initially through emails and written letters and communication to the executive director/principal, and agricultural science teacher in May 2010 (see appendix A). Favorable responses were received and shortly after arrangements were made with the principal to visit the school to discuss and explain the nature of the research. Upon receipt of approval for visiting, the researcher visited the school and met with the executive director/principal, counselor and agricultural science teacher and discussed the purpose of the research and answered questions about the study. During the visit the researcher toured the school facilities, and spoke with students enrolled in the agricultural science classes. The executive director/principal and agricultural science teacher were enthusiastic about the study and volunteered to participate. The executive director also recommended that a particular member of the board be contacted and asked to participate in the study. His reasons for recommending the particular board member was because of the integral role that the board member played in the establishment of the school; his continued support and involvement with the school and the historical and background information that he could provide about the school. The board member was contacted and informed about the study. He was very excited about the study and agreed to participate in the study.

After approval was granted by the Purdue University's Institutional Review Board (IRB) to conduct the study, copies of the IRB approval documents were submitted to the executive director of the school. Following an official request from the researcher to the executive director of the school to conduct the study, a criminal background check of the

researcher was requested by the executive director. After the criminal background check report was submitted, official approval was granted by the executive director to conduct the study. After this the researcher contacted the executive director and agricultural science teacher at the school to schedule follow up visits to distribute the inform consent forms, and to finalize the data collection schedule During the follow up visits the researcher met with the agricultural science teacher who works directly with the students who are enrolled in agricultural science courses to identify volunteers that were suitable to participate in the study. After learning about the purpose of the study several students volunteered to participate in the study and were asked to take home informed consent forms for their parents to sign as well as complete assent forms. From the list of students who volunteered to participate in the study, the researcher reviewed the list along with the agricultural science teacher in order to make sure that those that participated in the study fulfilled certain established criteria. These criteria include: participants must be enrolled in at least one agricultural science class; the total number of participants for the study must reflect the diverse population of students; participants must reflect the various year groups (freshmen, sophomore, juniors and seniors) and participants must include both male and female students.

Institutional Review Board

In October 2010 a detailed description of the proposed study and all the relevant paper work was prepared and submitted to Purdue University's Institutional Review Board (IRB). After submission the IRB recommended that revisions be made to the

application protocol, those revisions were made and resubmitted to the IRB. The protocol was approved on February 11, 2011. This was done to ensure proper research protocols were followed prior to conducting the study, while the study was in progress as well as after the study was completed. The protocol contains all the relevant information governing how the study was to be carried out as well as consent and assent forms for the participants of the study. After discussions with the graduate student committee recommendations were made for in-depth observations of the daily operations and activities of the school. As a result a revised protocol was resubmitted to the IRB in July 2011 to include this component of the study. The revised protocol was approved on August 16, 2011.

Researcher as the Data gathering Instrument

In qualitative research the researcher is considered to be the data gathering instrument. Therefore, for the purpose of this study the researcher was the primary instrument for collecting the data. This is contrary to traditional quantitative approaches that collect data by using data collection instruments that include closed ended questionnaires, surveys, as well as many other measuring instruments. The use of mechanical or electronic devices in qualitative work is quite common; however, the data that are collected have no significance or meaning until after they are processed through human intelligence. The use of the researcher as the instrument is based on the idea that human capacities are needed to partake in social life, these are considered to be the same capacities that helps qualitative researchers to make sense of their participants' actions and intentions (Bogdan & Biklen, 1992; Hammersley & Atkinson, 1983).

Methods used to Collect Data and Types of Data Collected

Data Collection Procedure

The data for this qualitative study were collected through field notes, document analysis, participant observations and individual tape recorded interviews with the participants. The data for this study were collected in the fall 2011 semester and the researcher visited the school two to three times per week for the semester. The researcher took detailed field notes during each interview and observation session. Field notes were kept in the form of journals. Each journal entry included the date, time of day, participants and non-participants who were present, description of the atmosphere of the setting, and all activities that were in progress were noted and described in-depth. A total of 26 journal entries were collected over the course of the study. The researcher also took notes and memos about her thought processes and feelings about the activities and interactions that were taking place during each visit. In addition, the researcher collected data through artifacts from the research site. Artifacts that were collected include: existing program records and documentations; student recruitment brochures; curriculum guides; syllabi for each agricultural science course; school newsletters; articles published in local newspaper about the school; existing data on agricultural science students enrollment, graduation rates and those who move on to higher education and careers in agriculture and related fields; program goals and mission; pictures of the agricultural science classroom and the Agricultural Education department; and other materials that are relevant to the phenomenon that is being investigated. The use of multiple data sources is a key component of qualitative inquiry and has been highlighted by several researchers (Bogdan & Biklen, 1992; Hammersley & Atkinson, 1983; Hatch, 2002).

The data were collected from an urban charter high school in a Midwestern U.S. city. The researcher collected data through individual semi-structured interviews with each participant. The researcher used open ended questions during the interview with each participant, and each interview lasted approximately 45 minutes to one hour. Observation and individual interviewing of the participants helped the researcher to collect rich thick descriptions of the participants' experiences that were investigated. When conducting phenomenological research the researcher is required to do in-depth interviews with the participants because observation alone cannot collect data about people's feelings, thoughts and experiences (Patton, 2002). In addition the use of multiple data collection methods (individual interviews, participant observation and artifacts) are often used in qualitative inquiry to generate rich data about the participants that are been investigated (Hatch, 2002).

Participant Observation

Participant observation entails the researcher's direct observations of the interactions and relations among the participants of the study (Mayan, 2009). During the first week of data collection for this study, the researcher observed the general classroom activities and interactions among the students and teachers. Although the researcher was actively observing the participants activities and interactions throughout the entire data collection period the first two to three visits to the school (week one) were devoted specifically to observation only. No interviews were conducted during the first week of school visits; however, the researcher took detailed field notes in her journal as well as

wrote memos to herself regarding observations. Journal entries included description of the classroom environment, student teacher interactions, agricultural activities and demonstrations, pictures and posters that depicted institutions of higher education and their agricultural programs. For example posters and information about Purdue's College of Agriculture and FFA were widely displayed in the Agricultural Education department at the school.

The researcher observed classroom activities and interactions without intervening or interacting with the participants of the study. The level of interaction and the duration of the interactions between the researcher and the participants varied as the researcher got to know the participants of the study. During the second to third week of data collection the researcher became more immersed in the classroom activities and increased her interaction and communication with the participants. In order to get the full picture and understanding of the regular school activities and daily routine the researcher continued observation outside of classroom activities. For example the researcher ensured that she was present at the school for several days to observe what a full school day was like. The researcher conducted observations during students' transition to different classes; visited the cafeteria and had lunch with the students and teachers during lunch break and other day to day activities. Such interactions with the participants helped to build trust among the participants of the study and the researcher. As the study progressed the researcher limited her participation in order to stay focused on the goal of the research (Patton, 2002). As the relationship among the participants and the researcher developed, the individual interviews were conducted.

Individual Interviews

Individual interviewing served as the foundation for this qualitative study. However, participant interviewing was complimented with participant observation and other data collection methods. Qualitative researchers apply special interview techniques which are different from those that are used in quantitative research (Mishler, 1986; Seidman, 1998). Quantitative interviews generally use closed ended questions that requires yes or no answers or Likert-type scales and these responses are usually analyzed by means of statistical analysis. On the other hand this qualitative study is comprised of interview questions that were uniquely created and are open ended questions which encouraged the participants of the study to give in-depth explanation of their perspectives about their agricultural science program. This allowed the qualitative researcher to pay attention to special languages, as well as, other clues which generated meaning structures that participants use in understanding their world (Mishler, 1986; Seidman, 1998).

Although specific questions were developed for the 10 participants of the study (see Appendix C), new questions were generated as the interviews were conducted. These new questions were based on participants' responses, the level of rapport that developed between the researcher and the participants, as well as, the nature of the social context under examination (Hatch, 2002; Kaplowitz, 2000; Patton, 2002). It is important to note that not only did the individual interview questions changed as the study progressed, but the overarching research questions that guided the study also changed after all the data were collected, transcribed and analyzed. Prior to entering the field the researcher had two overarching research questions that she intended to answer however, four new research questions emerged based on the data that were collected. The emergence of new

research questions after the researcher enters the field is based on what is described as "the exploratory nature of qualitative inquiry" (Mayan, 2009, p. 60).

The researcher conducted individual interviews with a total of 10 participants which included the school executive director/principal, one agricultural science teacher, a member of the school board and seven students enrolled in agricultural science courses. From the seven students that were interviewed a second interview was conducted with one of the students to obtain new information based on the student's attendance of the National FFA Convention that was going on during the data collection period. All of the interviews were taped recorded. Five of the students were interviewed in a small and comfortable conference room that was assigned by the school's principal. The other two students were interviewed in the school cafeteria and a small office because the conference room was occupied at the time of their interviews. The principal and the board member were also interviewed in the small conference room while the agricultural science teacher was interviewed in her agricultural science classroom after school. The agricultural science classroom was quite suitable for the teacher's interview as she was able to make direct reference to her classroom while the interview was conducted.

Techniques and Procedures for Analyzing Data

All tape recorded interviews with the participants of the study were transcribed verbatim. However, pseudonyms were used to protect the identity of the school and participants of the study. Some of the interviews were transcribed shortly after the researcher met with each participant therefore, the data collection and analysis occurred

simultaneously as the researcher enters the field and started collecting the data (Dooley, 2007; Miles & Huberman, 1994). During the transcription, the researcher made notes and memos to herself in order to identify emerging themes, categories and trends from the data. After all the data were collected and transcribed four copies of the original transcription document were made. The first copy was saved as a master copy and was not altered or modified. The second copy was printed and used as a reference or guide during the data analysis but no notes, memo, codes or alteration was done to this copy.

The third copy was printed and used by the researcher for manual (use of several different color highlighters, markers, pens and pencil to color similar themes, categories, phrases, words, and significant statements) note taking, memoing open coding and axial coding. All related themes, categories, phrases and words were colored using a specific color highlighter. For example words and phrases that were similar were highlighted with an orange highlighter. During this process a total of four color schemes (orange/red; green; yellow and grey) were used to identify similar words and phrases in the transcripts. Based on each color the researcher used red and black ink pens and pencil to label each category and sub category using key words and phrases from the transcripts. The researcher also made notes in the margins of the printed transcripts. On the fourth copy, note taking, memoing, open coding and axial coding were carried out by the researcher using Microsoft Word. Therefore the manual color scheme that was developed by the researcher was duplicated using Microsoft Word computer applications.

The data analysis process included the identification of similarities and differences in words, phrases and themes among responses to each question that the

participants of the study answered. This process is described as content analysis that entails the development of relevant categories. Words, phrases and sentences were placed in these categories (Tesch, 1990). The analysis also focused on discovery of various patterns and irregularities, as well as, making connection between these patterns and irregularity. This type of analysis is considered as the constant comparative approach (Glaser & Strauss, 1967) used during qualitative analysis.

Open Coding and Axial Coding

The researcher engaged in the process of open coding (Patton, 2002) by examining the data line by line in order to identify empirical indicators. Such empirical indicators constitute behavioral actions, and events that were observed and described in field notes, documentations such as interview transcripts, memos or artifacts which contain the words of the participants. Initially provisional codes (names) were made for each category. After categories become more apparent through support from the data as a whole, the researcher moved into the process called axial coding that was used to further analyze the data. Axial coding involves intensive analysis and development of individual categories which will produce cumulative knowledge that will show the relationship between each individual category as well as other subcategories. During this process, the researcher followed specific procedures by creating core categories or themes by means of selective coding at the last stage (Mayan, 2009).

The final qualitative data analysis was used to understand meaning of action and text. During the analysis, the researcher bracketed her biases in order to suspend her

perception of the meanings and interpretations. This allowed the researcher to enter into the participants' world. The researcher read through all of the data in order to immerse herself in the data holistically. The researcher used information and units that were relevant to the researcher's overarching research questions to develop themes, significant statements, assertions and categories (Dooley, 2007; Miles & Huberman, 1994). Finally after all themes were developed and checked in order to ensure full support from the data, the researcher included specific quotes from participants of the study that best supports the themes, assertions and categories that were developed.

Inductive, Deductive and Abductive Data Analysis

The data were analyzed inductively, deductively, and abductively. The researcher engaged in inductive analysis by reviewing large amounts of the data to identify emerging patterns and relationships. This process helped the researcher in constructing a picture as the researcher collected and examined various parts of the data (Bogdan & Biklen, 1992). The findings that were produced from this process are described as "grounded in the data generated from the ground up" (Hatch, 2002, p. 10). The researcher then moved into deductive data analysis, as she discovered the various patterns and relationships within the data she developed hypothetical categories. After which she read the data deductively in order to find out if these hypothetical categories that were formed were fully supported by the data (Erickson, 1986).

Hatch (2002, p. 10) noted that "the overall pattern of data analysis in qualitative work is decidedly inductive, moving from specifics to analytic generalizations" (Lincoln

& Guba, 1985). The researcher then moved on to abductive data analysis. Abduction helps to explain how qualitative research is essentially a cognitive process that combines both inductive and deductive reasoning. During the abductive data analysis, the researcher examined the data, after all of the data were scrutinized then all of the possible or likely explanations of the observed data were entertained. Hypotheses were formed in order to validate or disprove until the most plausible interpretations were found (Charmaz, 2006). The researcher essentially carried out a process that involves taking all the possible interpretations of the data into account by guessing and speculating about why are the data the way they are? After which these guesses and speculations were checked by using existing, as well as, further data. The researcher checked the hypotheses to ensure that they were supported, the researcher then moved on until full satisfaction is achieved as it relates to the general interpretation of the data (Mayan, 2009; Peirce, 1955; Shank, 1998).

Figure 3.1 is an example of the coding scheme guide that was used by the researcher during the data analysis. The codes that were generated constituted key words and phrases that were spoken directly by the participants relative to each research question. Those codes were manually highlighted and color coded based on trends and frequency within the interview transcripts. Four main color codes were used (yellow, grey, red and green). Additionally, significant statements or themes were developed based on participants' responses and comments. Major categories and subcategories emerged from the data which constitute labels of specific instances of the phenomenon that was investigated. The categories and subcategories were then thoroughly examined to identify patterns among them. The researchers then made a series of assertions for each

research question. Finally, through the process of abductive inference the researcher went back to the data to ensure that all assertions were fully supported and were the most plausible interpretation or explanations of the phenomenon that was investigated (Charmaz, 2006).

Code	Descriptor	Excerpt
Urban students' stereotypes	USS	"…It gives some kids different ways of looking at science... I think it gets these urban kids away to see what agriculture is and maybe what it isn't... I think they all picture a farmer in coverall riding on a tractor but that's not what agriculture really is today…"
Science	S	
Technical side of agriculture	TSA	
State funds for CTE	SF-CTE	"... so looking at what we can do to bring in more income and how we could supplement the science and technology focus of the school I wanted to bring in more of an agricultural focus which was how the school was founded. So I brought in an Agriculture Teacher whose salary is basically paid out of the funds that we get from the state for Career and Technical Education (CTE) classes which helps a lot…so she is getting the FFA program started as well and you know she has really been good for the school…" …yes, I talk to them about the importance of…a well-rounded education and not to look at it as that agricultural class, you know… they are not going to be out gardening during the day…they are going to be learning and using the practical application of biology and chemistry and understand how it is important to everyday life…and most of them get it…yeah they understand it once I explain it to them that way….
Well-rounded education	WE	
Agriculture teacher salary	ATS	
Agriculture fits well in urban charter school model	AFWUCM	
Science and technology	ST	
Practical application of Biology & Chemistry	PABC	
Agricultural focus	AF	
Ag major/Ag careers	AM/AC	"…let's see a farmer, I don't really know about the majors, maybe a manager, someone who uses the equipment in the field , maybe like researchers, and people who study fertilizer how fertilizers affect plants"
Farmer, researcher	FR	
Ag careers/ Production based	ACPB	
Media portrayal of Ag	MPA	"Probably boring, it (the media) would make me see them as boring, if I didn't take a class in agriculture it would make me think that agriculture was the most boring thing on earth… they kinda portray agriculture as unneeded, like the world doesn't need agriculture I guess"
Boring, unneeded	BU	
Ag classes, Ag literacy	AC/AL	

Figure 3.1 *Coding Scheme Guide*

Validity and Reliability

According to Bogdan and Biklen (1998), in qualitative inquiry, the researcher is concerned about the accuracy and as well as the comprehensiveness of the data that are collected. Qualitative researchers often view reliability as the fit between what was recorded and collected as data sources and the actual occurrences of the setting they investigate. Patton (2002) noted that unlike quantitative research where validity is based on whether or not the instrument (e.g. survey) measured what it was designed to measure, in qualitative research the researcher is considered as the instrument. The credibility of qualitative research is based on the expertise, rigor as well as the competence of the researcher in carrying out the field work. Therefore, in qualitative research, validity and reliability is based on the capacity of the researcher to provide an empirical picture of the social world of the participants as it actually exists and from the perspective of each of the participants (Patton, 2002).

In order to ensure validity and reliability of this study multiple data collection methods were used (individual interviews, artifacts collection, and participant observation). In addition data were collected on the same topic from several participants. The different strategies employed to ensure validity and reliability of the study was defined by Bogdan and Biklen (1998) as triangulation. Triangulation was done to help increase the trustworthiness of the data, results and conclusions that were drawn. Triangulation is a critical component of qualitative research because it allows the researcher to incorporate different methods, data sources as well as different individuals in collecting and analyzing the data (Ary, Jacobs & Razaveih, 1990; Denzin & Lincoln,

2003). According to Patton (2002) triangulation involves a comparative analysis of qualitative data and it may include the comparison of various data sources; cross checking data sources to ensure consistency of information, as well as, the use of different individuals in collecting and analyzing the data.

The transcription of the data occurred simultaneously with the data collection process as the first set of data was collected. After all the data were transcribed, coding and categorization of the data was carried out by the researcher. The coding process entails the identification of themes that are consistent with the data. Themes include patterns that fall into specific categories that are found to be consistent in the data (Patton, 2002). During the coding process several categories were constructed and checked carefully to ensure they are suitable based on the data that were collected. Additionally, a code guide document was developed by the researcher which included the major categories and subcategories that emerged from the data. The categories and subcategories were divided into four major sections based on the four overarching research questions of the study. Supporting codes and excerpts that were taken directly from the participants' interview transcripts were also included. Finally, in order to ensure further validity of the data analysis the researcher communicated and consulted frequently with her major professors in order to check for discrepancies.

Trustworthiness of Data

According to Ary, Jacobs and Razaveih (1990), several different procedures can be used to check the credibility or trustworthiness of qualitative data. Based on the nature of qualitative inquiry where the researcher is the primary instrument used to collect the

data it is necessary that the researcher carefully reflects on possible biases that may exist. Therefore the researcher is required to conduct the data collection process in a systematic way that includes rigor, training, triangulation as well as use of several different data sources. This will produce data that are authentic, high quality, trustworthy and produced findings that are balanced and credible about the phenomenon that is under investigation (Patton, 2002). Some of the other techniques that are used to increase the trustworthiness of data include prolonged engagement and observation of the participants and site being investigated. This will help the researcher to collect in-depth information about the participants and the site. In order to fulfill this criteria, the researcher spend approximately three and a half months in the field (fall semester 2011) observing and interviewing the participants in order to collect rich thick descriptions of the participants and site of investigation. In addition, member checks were done with some of the participants that were available in order to establish credibility. Member check involves sharing the researcher's interpretation of the data with the members or participants of the study for validation. Member checks were carried out during and after each interview, as well as, during observations.

Additionally, after all the data were collected through interviews and observations, the researcher contacted all of the administrators who participated in the study. The administrators checked field notes and transcripts to ensure that what was written down was actually what was taking place in the settings under investigation. The researcher also had follow up discussions via emails and phone calls with the participants that were available to ensure that her interpretation of the data was congruent with the participants' thoughts and feelings about the phenomenon that was under investigation.

During the follow up discussions with the participants they provided further confirmation about the data. After all the member checks and follow up discussions were conducted, a letter was sent to the participants to thank them for their time and participation (see ppendix B). The qualitative researcher also maintained detailed documentation that describes how the research was conducted. This detailed documentation includes what was done, date and reasons for conducting each activity. The documentation also included the raw data, as well as, information about the participants that were observed and interviewed and the reasons for doing so. Information about how the data were interpreted and how the conclusions were drawn as well as further refinements was also documented. Such detailed documentations are useful and can be examined by others to confirm the findings. This process helps to enhance the dependability (reliability) of the study (Ary, Jacobs & Razaveih, 1990). The researcher kept detailed documentations as the research progressed and all research materials and study procedures were stored in a secured file cabinet in the Youth Development and Agricultural Education Department at Purdue University.

CHAPTER 4: RESULTS AND DISCUSSION

This chapter is comprised of the results and discussion that were generated based on the purpose of the study and the four overarching research questions of the study. The chapter is divided into three main sections: demographic data and descriptions of the participants of the study; major categories that emerged from the data analysis; and summary of document analysis. The first section on demographic data and descriptions of the participants of the study is presented in tables and is divided into two groups: demographic data and descriptions of participants who were administrators and demographic data and descriptions of student participants. The second section is comprised of the major categories that emerged from the data analysis. The categories are presented with the corresponding research questions and schematic illustrations are used to show how the major categories were developed. The schematic illustrations also show subcategories that emerged, codes that were generated and excerpts from the transcripts that support the codes, subcategories and categories (Mayan, 2009).

The third section provides a summary of document analysis. Documents that were collected from the school and analyzed include: curriculum guides; school newsletters; existing program records and documentations; student recruitment brochures; syllabi for each agricultural science course; existing data on agricultural science students enrollment, graduation rates and students who moved on to higher education and careers

in agriculture and related fields; program goals and mission; pictures of the agricultural science classroom and the Agriculture Education department; articles published in local newspaper about the school and other materials that are relevant to the phenomenon that was been investigated (Patton, 2002).

Demographic Data and Descriptions of Participants

There were a total of 10 participants included in the study. Table 4.1 shows the demographic data and descriptions of participants who were administrators. Table 4.2 shows the demographic data and descriptions of students who participated in the study. Pseudonyms were used to protect the identity of the school and the participants of the study. From the 10 participants who participated in the study three were described as administrators. The three members of the administrative staff include: the executive director/principal of the school, Mr. Brooks; the agricultural science teacher, Ms. James; and a member of the school board, Mr. Brown. Mr. Brooks and Ms. James were in their first academic year of employment at the school while Mr. Brown has been actively involved with the school for approximately six years. Mr. Brown is one of the founding members of the school and currently serves as a chartered member of the school board.

Table 4.1

Demographic Data and Descriptions of Participants who were Administrators

Pseudonym	**Title**	**Gender**	**Ethnicity**	**Number of Years at School**
1. Mr. Brooks	Executive Director/ Principal	Male	White	5 months
2. Ms. James	Agricultural Science Teacher	Female	White	5 months
3. Mr. Brown	Board Member	Male	African American	6 years

Seven of the participants who participated in the study were students that were enrolled in agricultural science courses at the school. Table 4.2 shows the demographic data and descriptions of student who participated in the study. One of the seven students who participated in the study was classified as a freshman. Two students were classified as sophomore. Three were classified as junior and the other one was classified as a senior. Five of the seven students were enrolled in the Advanced Life Science: Plant and Soil Science (ALS) course and the other two students were enrolled in the Introduction to Agriculture, Food and Natural Resources course. Two of the students that were enrolled in the Advanced Life Science: Plant and Soil Science (ALS) course was also enrolled in the Horticulture course. The students' ages ranged from 16-18 years and there were five females and two males. Four of the students were African American, one White, one Asian American and one Hispanic.

Table 4.2

Demographic Data and Descriptions of Student Participants

Class	**Age**	**Gender**	**Ethnicity**	**Agricultural Science Course Enrolled in**
1. Freshman	15	Female	African American	Introduction to Agriculture, Food and Natural Resources
2. Sophomore	16	Female	African American	Introduction to Agriculture, Food and Natural Resources
3. Sophomore	16	Male	Asian American	Advanced Life Science: Plant and Soil Science (ALS) Horticulture
4. Junior	16	Male	African American	Advanced Life Science: Plant and Soil Science (ALS) Horticulture
5. Junior	16	Female	African American	Advanced Life Science: Plant and Soil Science (ALS)
6. Junior	17	Female	Hispanic	Advanced Life Science: Plant and Soil Science (ALS)
7. Senior	18	Female	White	Advanced Life Science: Plant and Soil Science (ALS)

Major Categories that Emerged from the Data Analysis

Research Question One

This section is comprised of the four overarching research questions of the study and the major categories and subcategories that emerged from the data analysis. Schematic illustrations are presented that shows the connections and interrelationship between the categories and subcategories for each research question. Codes and excerpts from the transcripts that support each category and subcategory are also included (see Figure 4.1). The first research question is:

How do administrators view the infusion of agricultural science courses into urban school curricula?

The administrators were asked to share their perceptions about the infusion of agricultural science courses into urban school curricula. All of the participants classified as administrators thought that it was of paramount importance for agricultural science courses to be infused into urban school curricula. Two major categories and two subcategories emerged from the data that provides further explanation for the administrators' thoughts about the importance of infusing agricultural science courses in urban school curricula.

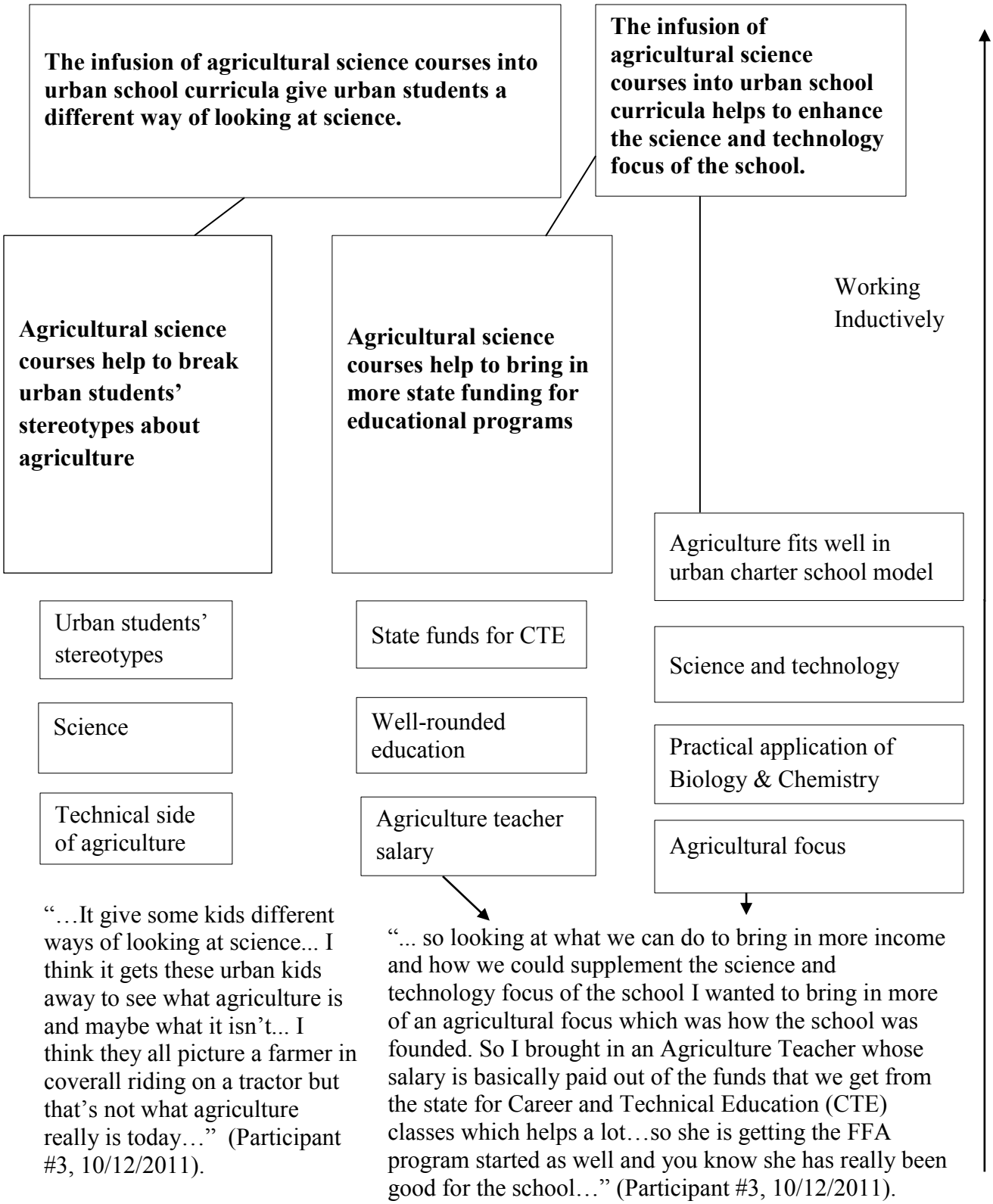

Figure 4.1 Research Question 1: Interrelationships Between Categories, Subcategories and Codes. Adopted from "Essentials of Qualitative Inquiry," by M. J. Mayan, 2009, p. 96. Copyright 2009 by Left Coast Press, Inc.

The first category that emerged from the data is:

The infusion of agricultural science courses into urban school curricula give urban students a different way of looking at science

According to the participants classified as administrators, the agricultural science courses helped urban students understand what agriculture really is and how the agricultural science courses incorporate the practical applications of science into day to day life. Additionally, administrators spoke about the importance of agricultural science courses in urban school curriculum and how that contributes to well-rounded students. Further one participant classified as administrator stated that the agricultural science courses "…it's using your hand, it's using your mind, it's using science, it's cooking, it's feeding the world, it's clothing and so I thought do people really know what agriculture is about?" (Participant #4, 10/12/2011). Other administrators gave a more comprehensive view about the infusion of agricultural science courses into urban school curriculum:

> It gives some kids different ways of looking at science... I think it gets these urban kids away to see what agriculture is and maybe what it isn't... I think they all picture a farmer in coverall riding on a tractor… but that's not what agriculture really is today…. (Participant #3, 10/12/2011).

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> …yes, I talk to them about the importance of…a well-rounded education and not to look at it as that agricultural class, you know… they are not going to be out gardening during the day…they are going to be learning and using the practical application of biology and chemistry and understand how it is important to everyday life…and most of them get it…yeah they understand it once I explain it to them that way…. (Participant #3, 10/12/2011).)

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> Right! but what we have come up in the CTE is a really a takeoff from the career clusters and we were working on a pathways project when I was with DOE which was basically a four year plan that was based on any of the CTE areas… so I took the Ag area and I was looking at how we might best used those here…and that's where the Ag specialist and I kinda looked at the technical side of agriculture, the engineering side, the science side…and how we could use agriculture science classes….not only did they complete the requirements for agriculture but it could also be used for science and that's where those ALS courses came in… I would really like to see my students take biology, chemistry and both ALS courses through the rest of their years…I want them to have four years of science. I want them to have Project Lead the Ways courses that have to do with bioengineering, biotechnology and those things and then that whole Ag pathway…from fundamentals down to the ALS courses…and agribusiness could be one of those courses as well… but I think that gives you well rounded students….(Participant #3, 10/12/2011).

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> Because it's their everyday life, they eat, they wear it, they talk it, they are engaged in computer science, they are engage in other modern technologies but we leave out the Ag science which not only feeds them but feed the world, comes up with medical solutions and so it's nature and what we can do with it that makes the world go round…. (Participant #4, 10/12/2011)

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> …let the young people of all diverse backgrounds, so all Americans, all Hoosiers in particular let them know about the industry of agriculture, let them know about it early on and then let them know about Purdue University and what it offers and then while we promoting agriculture, or get in the midst we can go ahead and let them become the engineers and the nurses and the lawyers but we have done something, we have given them an appetite to continue to seek secondary education and it is, education is always the key….(Participant #4, 10/12/2011)

The second category that emerged from the data is:

The infusion of agricultural science courses into urban school curricula helps to enhance the science and technology focus of the school

Administrators highlighted the science and technology focus of the school and emphasized the role that the agricultural science courses played in enhancing and supplementing the science focus of the school:

> I would really like to see my student take biology, chemistry and both ALS courses through the rest of their years…I want them to have four years of science. I want them to have Project Lead the Way courses that have to do with bioengineering, biotechnology and those things and then that whole Ag pathway…from fundamentals down to the ALS courses…and agribusiness could be one of those courses as well... but I think that gives you well rounded students. Are all of them going to be happy with that pathway in agriculture? maybe not…but again that's the focus of our school…that's what drives what we do… so that's the framework that we are kinda following (Participant #3, 10/12/2011).

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> ...so looking at what we can do to bring in more income and how we could supplement the science and technology focus of the school…I wanted to bring in more of an agricultural focus which was how the school was founded. So I brought in an Agriculture Teacher whose salary is basically paid out of the funds that we get from the state for career CTE classes…which helps a lot so she is getting the FFA program started as well and you know she has really been good for the school…(Participant #3, 10/12/2011).

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> ... when the school was started six years ago they were looking for a theme, a focus of the school and ... one of the board members at the time… Mr. Brown was very instrumental in working with the founder of the school Ms. Wright and they got together and realized that there was some funding that they could use through the state to begin an agribusiness course of study and so they worked on that… but they were partners with Bougainvillea High School which has an urban farming community… so they shared a teacher from Bougainvillea High School through distance learning… (Participant #3, 10/12/2011).

> …the goal was to include sciences and technology and move these students, the middle range students, the lower middle range students through college so therefore, the cost of high school is reduced and more importantly the cost of college is reduced, which by the way lead to…an education program in this state that is attempting to see students complete high school in three years (Participant #3, 10/12/2011).

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One of the administrators spoke about the vision of the school in helping students from diverse backgrounds succeed in their educational pursuits and particularly in science and technology "…a vision to give lower middle class students and students of diverse backgrounds an opportunity to succeed in the education arena by assisting them with the…sciences and technology which is what diverse students are lacking" (Participant #4, 10/12/2011). The administrator further spoke about how agricultural science courses complements the technology focus which may also provide solutions to manufacturing and social issues: "…I suggest to you that we take agriculture and we put it right next to the computer and perhaps some of our job manufacturing issues will be resolved, it will resolve some of those social factors, but as everything does it starts with the education" (Participant #4, 10/12/2011). Another administrator spoke about the importance of urban students getting a strong agricultural background based on the nature of urban communities and the lack of knowledge about agriculture among students: "The east side of Fern Gove and the urbanness of it all and to have that strong agricultural background. I want people to say wow they really are doing something in Cornwall County and especially on the eastside of Fern Grove" (Participant #3, 10/12/2011).

After emphasizing the vital role that the agricultural science courses played in enhancing the science and technology focus of the school the administrators spoke about their interests in expanding their educational program through the addition of other agricultural science courses. Additionally, administrators also spoke about the rigor of their science program and how the agricultural science courses and other courses contribute to a unique Urban Agricultural Education program within their school. The administrators went on to express their desire to develop students who will ultimately pursue higher education and careers in agriculture such as agricultural engineering and other Science, Technology, Engineering and Mathematics (STEM) related fields:

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> …but I want to stretch it even further, not only do the agribusiness but the agriscience aspect of it and eventually I want to get it into the agricultural engineering with some Project Lead the Way…and show them that there is a lot of work that can be done in using your biology, chemistry and computers to figure out how to take the product from farm and extend it to families worldwide…(Participant #3, 10/12/2011).

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> I don't think there are programs that are established to be as rigorous as what we are trying to do here…I know that there are a lot of ALS classes being taught but I don't know if there are a lot of ALS classes being taught in conjunction with Project Lead the Way and things like that. I want my students to be…I want them to be agricultural engineers…and so that's what I am pushing towards. I want them to be strong in Math, strong in Science…and be able to go to Purdue or really anywhere with an agricultural focus and get a great job when they graduate. I want them to have that leg up… my kids are urban kids, they have to be able to be a cut above everybody else... and I think the initial reading of a college application…or seeing their resume they shock some people of where they come from…but then I want those people once they talk to them to just be floored, WOW! (Participant #3, 10/12/2011).

> Just trying to build a school for kids that …maybe don't have an idea of what's really out there in the fields of science and technology…you know so many times we hear about STEM related fields and nobody can really give an answer to what that is except for working in the medical profession… and there is so much out there than being a lab tech or a doctor that the kids don't know about…so part of our job is not only teaching them about agriculture but also teaching them about other careers that they may be interested in…and I think we have to do a good job with selling that to the community and parents (Participant #3, 10/12/2011).

In addition to enhancing the science and technology focus of the school, administrators also highlighted the fact that agricultural science courses seem to fit well with the charter school model which the school is based on. According to the administrators the flexibility of the charter school approach made it easy to incorporate agricultural science courses in their school curriculum:

> …we are our own school district so even though we are only one school, what we decide to do, we get to do which makes it very easy to bring in our Ag program, and it made it very easy to do some of the changes that I wanted to do right of the bat…we still have… what the charter is, is kinda our direction…of how we want to do things, what our mission is and I have to fit my vision into that… it's broad enough so that there are some wheels around but it's also narrow enough so we can't just change everything…so the Ag thing happens to fit…(Participant #3, 10/12/2011).

Two subcategories also emerged from the data, the first subcategory that emerged from the data is:

Agricultural science courses help to break urban students' stereotypes about agriculture

All of the participants classified as administrators thought that urban students had various stereotypes about higher education and careers in agriculture. They thought that the infusion of agricultural science courses into urban school curricula could play an important role in breaking those stereotypes while educating students about what

agriculture really is. One administrator stated: "…I think it gets these urban kids away to see what agriculture is and maybe what it isn't... I think they all picture a farmer in coverall riding on a tractor…but that's not what agriculture really is today…" (Participant #3, 10/12/2011). Administrators expressed the need to break those stereotypes as well as highlighted some of the major stereotypes that urban students hold about agriculture. Administrators stated that urban students believe that agriculture is just about farming and corn. One administrator also shared a story about a student that was enrolled in one of the agricultural science classes who was unaware that apples came from trees. This shows that some urban students lack the knowledge and understanding about agriculture and the various roles that agriculture plays in human life and food production:

> …you know there is a big stereotype with agriculture so the things I do in class I try to break those stereotypes and with me being excited about it and me having that agricultural background I can pull from those experiences and I have personal stories that they can relate to or try to get them to relate to even if they haven't seen it…(Participant #10, 11/15/2011).

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> …they just think it's farming and corn and that's about it …because when I ask them so what's the agriculture that we have around the school, you know there is a nursery just on the other side of the parking lot behind the school and they didn't consider that as agriculture but landscaping is a huge industry in agriculture so I mean they are just unaware of what agriculture is...I even had a student who didn't even understand that an apple came from a tree so we went over that most of the food that we eat come from agriculture and farmers don't just farm corn because that's what they see around the city here because there are small farm fields in the city here with corn and soya beans so they see that but they just don't understand that all the stuff that goes into it all the various industries that are wrapped up in agriculture…(Participant #10, 11/15/2011).

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> …but it's just the biggest struggle here at Fern Grove High School is just breaking through those stereotypes again because the kids just don't realize what is out there for them in agriculture…so and I mean we just in our third month of school so its…I am taking away some of those stereotypes and those walls that they have so hopefully by the end of the year those stereotypes will be broken but right now I think there is still a lot of stereotypes there (Participant #10, 11/15/2011).

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> …what kids know about food is…where do you get milk? From the grocery store, you know…they have seen cows, they have seen corn…that's about all they know...so we are trying to…they come here and they say well I don't want to take an agricultural class and I say yes you do…and here is why this could be your future, and it's a great job and it's high paying and in high demand and it's important…not only is it important to people in the United States, it's important to people around the world. If you look at places where people are starving…think about a job where you can really give back more than that, this is keeping people alive, this is really doing more than what a doctor can do, this is doing more than a teacher can do, so yes you do want to get in agriculture. So that's part of what all of us in the building have to teach about agriculture (Participant #3, 10/12/2011).

Another administrator shared a similar story to the one described above which further supports the argument that urban students lack the knowledge and understanding about agriculture and the various roles that agriculture plays in human life and food production:

> …we had a student who graduated from Central Village High School he was a 4.0 student who said that chickens came from Walmart… and he was corrected by a young lady that graduated as the valedictorian who said no you are wrong chickens came from Kmart because everybody knows that Kmart has been around longer. And it was that response that we knew it was the lack of information from the students, them not having that information because we had gone strictly urban and so we got to think about the students because agriculture is all around us…it is a 26 billion dollar a year industry in this great state, very important industry, biotechs, scientists, doctors, lawyers, economists, engineers, architects an so we can go on and on and on and then we have the common laborer to work and so I think my interests in agriculture was peaked because of the lack of involvement that clearly the African American community, but the diverse community had with understanding that agriculture was more than just cows and chickens (Participant #4, 10/12/2011).

In an attempt to break the stereotypes that urban students hold about agriculture administrators also share their views about how agriculture is wrapped up in different aspects of our daily lives in areas such as nutrition, clothing, cosmetics, health and wellness:

> In urban communities we did not associate with one high school that wanted to be a part of our program because they wanted a tractor, they had some land and after school they wanted students to learn how to plant seeds and have a farmer market and we said well that's one aspect but there is another whole aspect of our program….they said "well we are not interested that" so we worked with the school for about a year but they never came along...so we left them there because agriculture is more than just planting corn and planting tomatoes…it's the clothes that we have on our backs, it's the sheets, it's what's in the lotion so it's more than that (Participant #4, 10/12/2011).

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> Well I think that it is probably the biggest economic decision that we make every day…what you are going to buy at the store? what you are going to do for your family nutritionally? and I thought it's important to really take a look at those things and the wellness of our students… I feel is more important than a test score which is why I brought in a different PE (Physical Education) program, I brought in a different health program and I feel like it's all tied to our agricultural program as well…how we treat our bodies and what we eat that's who we are…and I would like them to see that they have some responsibility in the decision they make (Participant #3, 10/12/2011)..

The second subcategory that emerged from the data is:

Agricultural science courses help to bring in more state funding for educational programs

In addition to enhancing the core curricula of the school and the educational programs that were offered, administrators were also very enthusiastic about the role of State funding for Career and Technical Education (CTE) programs. During the period when the data were collected the administrators made it very clear that the school was facing enrollment and financial challenges. One administrator stated that: "…I had the opportunity to come here and I am enjoying that… it has its challenges…you know we don't have the population of students that we would like to have so we are in huge financial crisis really…" (Participant #3, 10/12/2011). He went on to provide further information about the enrollment and financial challenges that school was facing:

> …part of the problem is we had 240 kids last year and when I came in we were down to 107 and…I brought in 85 new kids so...that put a strain on us but I think we are going to be OK, I have to believe that we are going to be OK… (Participant #3, 10/12/2011).

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> …we were about 70 students short. I needed 270 students (total number enrolled in school). So we are still trying to deal with the repercussions of not having the enrollment that we wanted to have. So we had to cut some teachers and we are looking at other ways to make up the shortfall… (Participant #3, 10/12/2011).

Administrators' emphasized that the ability to access state funding for career and technical education courses such as the agricultural science courses was very important in relation to the school's financial issues. The administrators emphasized how the career

and technical education funds helped the school and the education programs that they offer:

> ... so looking at what we can do to bring in more income and how we could supplement the science and technology focus of the school…I wanted to bring in more of an agricultural focus which was how the school was founded. So I brought in an Agriculture Teacher whose salary is basically paid out of the funds that we get from the state for career CTE classes which helps a lot…so she is getting the FFA program started as well and…you know she has really been good for the school…(Participant #3, 10/12/2011).

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> ...I spend some time with Department of Education (DOE) in the state and I got to know the agriculture specialist there and we spend some time talking about... really what's the future of agricultural education and I got some information from him and that's how I learned about the extra funding for the Ag program and that per student dollar amount is pretty important to us especially it allows me to hire a teacher so that didn't have to come out of my general fund and that's kinda nice…and that's really what I am hoping to do next year when I hire a Project Lead the Way Teacher to be able to use those funds for that as well…(Participant #3, 10/12/2011).

> When the school was started six years ago they were looking for a theme, a focus of the school and one of the board members at the time… Mr. Brown was very instrumental in working with the founder of the school Ms. Wright and they got together and realized that there was some funding that they could use through the state to begin an agribusiness course of study and so they worked on that… but they were partners with a Fern Grove Public School (FGPS) a high school…Bougainvillea High School which has an urban farming community… so they shared a teacher from Bougainvillea High School through distance learning…(Participant #3, 10/12/2011).

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> Well I was working in the DOE and I happen to have a meeting with Mr. Brown and he was looking for ways to raise money for the school and he talked to Dr. Myers, the state commissioner for education and they sent me over to talk to him

> about how he might be able to get some CTE funding for Fern Grove High School. So we had a nice conversation and told him a few things and hiring an agricultural teacher was one of those…(Participant #3, 10/12/2011).

Major Categories that Emerged from the Data Analysis

Research Question Two

The second research question is:

How do urban students view higher education and careers in agriculture?

The participants of the study who were students were asked to share their thoughts about higher education and careers in agriculture. All of the students who participated in the study were enrolled in at least one agricultural science course at the time that they were interviewed. After the data were analyzed it was evident that most of the students had limited knowledge about the various areas of study and careers that they could pursue in agriculture. Two major categories and three subcategories emerged from the data which provides detailed descriptions about students' interpretations of higher education and careers in agriculture. Figure 4.2 shows the interrelationship between the two major categories, three subcategories, the codes and supporting excerpts from the interview transcripts.

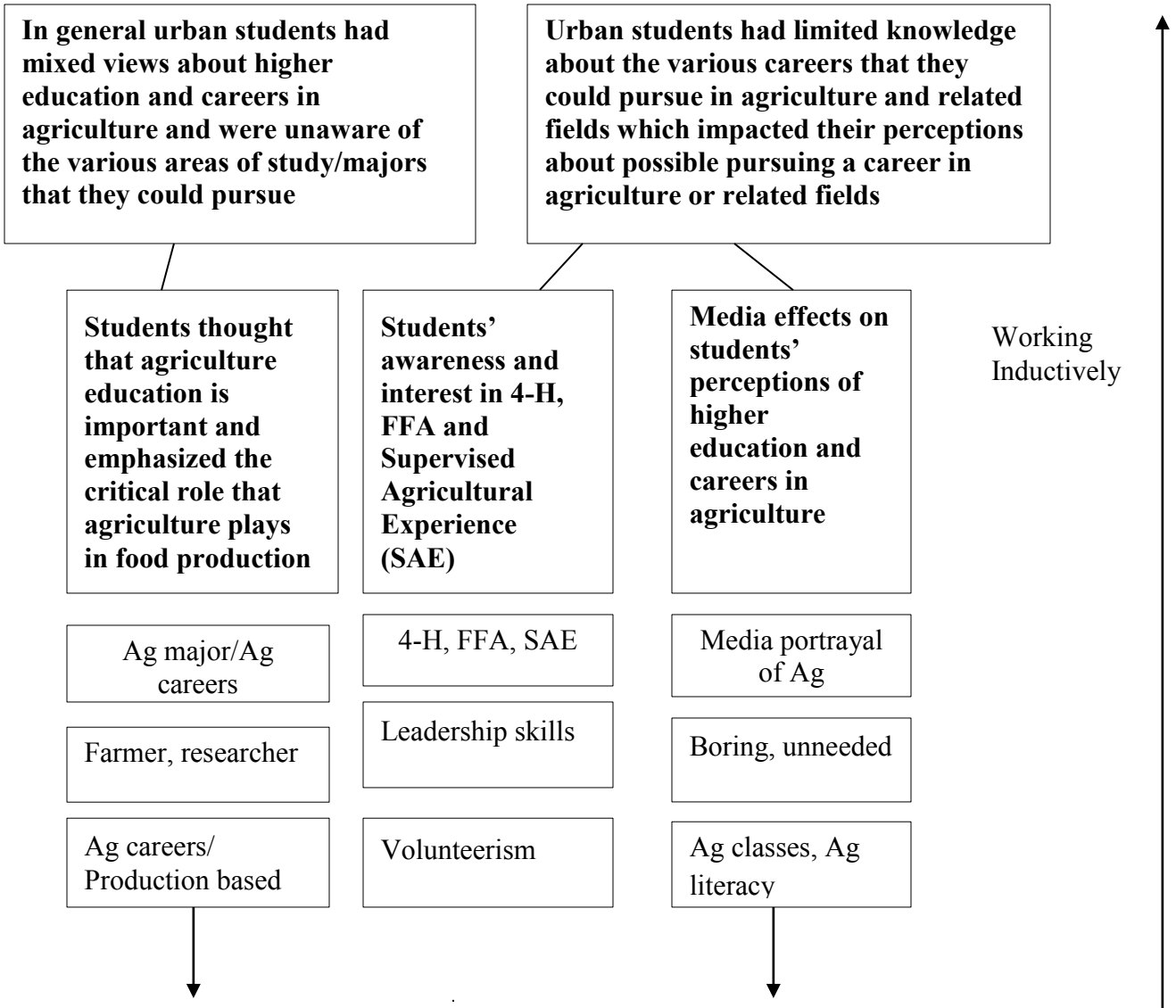

Figure 4.2 Research Question 2: Interrelationships Between Categories, Subcategories and Codes. Adopted from "Essentials of Qualitative Inquiry," by M. J. Mayan, 2009, p. 96. Copyright 2009 by Left Coast Press, Inc.

In general urban students had mixed views about higher education and careers in agriculture and were unaware of the various areas of study/majors that they could pursue

The participants were asked about their interests in majoring in agriculture and related fields. One of the participants stated that she was interested in learning more about agricultural science but she was not interested in majoring in this area. Another participant expressed similar views but had an interest in choosing a minor in agricultural science with a major in business:

> Yeah, I like it…there are things that I didn't know so like… I am learning…and it's pretty interesting…I choose it because I wanted to know more about it…like I am not interested but I want to know…like I am not interested…like I won't do that…like… I like agriculture and all that stuff but that won't be my major I know that for sure but I wanted to know, to learn more things about that…probably I like it…(Participant #6, 11/19/2011).

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> …nothing I could think of, I might look into something like it in college but am not sure yet… maybe like a more advanced plant and soil or like life science… probably be in addition to business, not a major by itself…(Participant #5, 11/19/2011).

In contrast two other participants expressed strong interests in agricultural science majors and provided specific information about what they were interested in studying. One of the participants indicated that she was interested in studying agriculture at one of the state's major land-grant universities while the other one didn't state the name of the institution that he was interested in however, he indicated that he was interested in agricultural research:

> You know what I am very interested in agriculture and the course that I would take is plant and soil (ALS). It's interesting because you learn how to grow your own plants and you learn how to fertilize it, so I am thinking yeah I want plant and soil because I need it anyway but its kinda interesting (Participant #8, 11/26/2011).

> …well like planting seeds and everything, I like learning about diseases and viruses and cells and all that so that's one thing that interested me and also looking at seeds and dissecting it and looking at the different parts and maybe like looking to major in agricultural researcher or something (Participant #2, 11/11/2011).

Another participant indicated that more students would be interested in majoring in agriculturally-related areas if they had more knowledge about the various majors and what they are about. The participant stated "…especially food science, if they had a clear understanding of what food science is, what people do in that field, of course they would see something positive about it, you know cause it's there, and it is useful" (Participant #1, 11/11/2011). The same participant went on to share his thoughts and interpretation of his peers' perceptions of agricultural science classes and majors:

> Yes, yes! they (participants peers) would say that it's annoying, that it's not cool to be a part of that class, that program, they just think that it is lame, stupid and useless, but I mean they don't have the understanding of what it is (Participant #1, 11/11/2011)

Another participant shared similar views as it relates to her interpretation of her peers' perceptions of agricultural science courses and majors:

> Majority of them have negative views, they think it's a waste of their time, you know not really a course that is needed but as an elective that you would like to take it counts. But most of the people they really don't care about agriculture in this school (Participant #8, 11/26/2011).

On the other hand two other participants had more positive views about agricultural science classes and majors. One of the participants stated: "I would say that they (agricultural science classes) are viewed in a positive way but not in such a huge way they are not like the biggest thing ever …they are kinda like normal" (Participant #2, 11/11/2011). While the other stated: "That probably be a good thing because there is nothing wrong with the major…because if you really like it you are going to do it and if you don't like it you are not going to do it" (Participant #6, 11/19/2011).

They were also asked about some of the majors or areas of study that they could pursue in agriculturally-related fields. One of the participants stated: "…let's see a farmer…I don't really know about the majors, maybe a manager, someone who uses the equipment in the field , maybe like researchers, and people who study fertilizer how fertilizers affect plants" (Participant #2, 11/11/2011). Another participant stated: "I would like to study plant and soil and maybe…I was trying to think but I can't think of anything else, maybe animals, study animals for the dairy farmers, but other than that, nothing else" (Participant #8, 11/28/2011). Other participants provided more comprehensive responses about what they have learned about different majors and areas of study in agriculture and related areas:

> ...not very much...we had to do a research paper about majors in agriculture and I did mine on agriculture engineering manager…I believe it was…that person would go around and make sure that all the equipment were working and make sure that the work environment was good for the employees…and also ways to do things like helping problem solving and that person would also…be able to develop like training courses to help people do better in their work…that was pretty much it (Participant #2, 11/11/2011).

Based on the responses that the students who participated in the study provided it was evident that they had limited knowledge about the wide variety of areas of study they could major in, in agriculture and related areas. To further support this claim one of the administrators who participated in the study shared a story about a personal experience with a student who changed her major from business to agricultural economics after she had learned about the various majors in agriculture. The administrator also spoke about how a local agricultural summer program helped to increase students' awareness about agriculture:

> ….a young lady that is at Central State University and she is a freshman this year ... she came to the school because of the Agricultural Science Summer Enrichment Academy (ASSEA) program and she said she likes animals but she didn't know that agriculture did so much and then the story that I love telling is my summer intern, the third year of the program happen to be a Morrill University student. She was a sophomore going to be a junior and she worked with me for an entire summer with the ASSEA program…she changed her major to Ag Econ because she was unaware of the broad fields in agriculture (Participant #4, 10/12/2011).

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> …she was a business major in the school of business there, and not Ag Econ so… so she did an internship in DC with US Department of Agriculture, she has done an internship with our department and absolutely loved it and now she works for Cargill (Participant #4, 10/12/2011).

The second category that emerged from the data is:

Urban students had limited knowledge about the various careers that they could pursue in agriculture and related fields which impacted their perceptions about possible pursuing a career in agriculture or related fields

One of the major components of the agricultural science curriculum is the exploration of agriculture related careers. Therefore, it was important to gauge students' perceptions about the types of careers that they could pursue in agriculture related areas. When students were asked about their interests in pursuing careers in agriculture related areas many of them showed little interests while others stated that they were not interested at all. Additionally when the students were asked about the types of careers that one could pursue in agriculture related areas many of them had little or no knowledge about the wide variety of careers in agriculture related fields.

Students were also asked to share their views about some of the various institutions, companies and organizations that individuals who have higher education in agriculture could be employed. From the responses that the students provided it was evident that they had limit knowledge about the various careers they could pursue in agriculture related fields which negatively impacted their perceptions about pursuing careers in agriculture. Two of the students stated: " As for major I don't think agricultural science would be possibly for me but as like a minor or stuff in college and like a career on the side of course I would do that" (Participant #9, 11/26/2011). "Well am not really interested in taking agriculture…so would it still be ok?" (Participant #2, 11/11/2011). One student stated that: "I don't know, not really but if it comes up and it's a good opportunity I probably would...I wouldn't mind taking up that profession" (Second interview with participant #01, 11/10/2011). While another student stated "at my last

school I did have a lot of kids who were interested in Ag careers…" (Participant #7, 11/25/2011).

Other students gave more detailed responses such as:

> I don't believe that I want to have a career in agriculture…like yeah it's not something that interest me too much but it is something good to learn but I don't think it is something that I would take on full fledge, like I need to study agriculture to get on with life…no, not for me…I never have that big of an interest in it…I like computer graphics and designing video games and marine life a lot more than I like agriculture (Participant #2, 11/11/2011).

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> I might be after I retire or something because you know after you retire you need something to do, so I might go back to school probably for it and just do my own garden and what not and probably sell some you know make a little business out of it, so I might… after I feel like I am done with that job, that career I went to school for four years in college then I will be like OK, I am thinking of retiring somewhere in my 40s then like just do agriculture, making my own garden and maybe even sell some (Participant #8, 11/26/2011).

On the other hand another student highlighted the importance of having a career in agriculture and gave detailed description of why she believes that a career in agriculture is important:

> I think that it's important...because without agriculture and the careers in agriculture I don't know how we are going to get our food really to tell you the truth… and like the things that they put in it, it really like affects me because companies they put extra stuff in it to make it real big and I really don't like that. If you go to like one of those farmer markets where they have like natural fruits and natural vegetables I like those because it don't have that extra stuff in it and that's what I like and people like me that don't like that extra genetic stuff in their food it's a big deal. If all farmers put that genetic stuff in their food that wouldn't be good, so I think that it's really important to have careers in I guess like science

> have some part in agriculture and managers I guess, farm managers, dairy farmers , somewhat yeah (Participant #5, 11/19/2011).

Few of the students had advanced knowledge about higher level careers that individuals could pursue in agriculturally-related areas while most of them had little or no knowledge about the various types of careers in agriculture. Some of the higher level careers that they spoke about include: agricultural science teacher, researcher, agricultural engineering, food scientist and animal scientist. While the careers that most of the students were able to identify include: being a farmer and working in a pet shop. One of the students stated: "…let's see a farmer…I don't really know… maybe a manager, someone who uses the equipment in the field , maybe like researchers, and people who study fertilizer how fertilizers affect plants" (Participant #2, 11/11/2011).

Some of the more comprehensive responses that students gave were:

> You could apply for dairy farmer, maybe a farm manager, those are like the major areas really, and the other ones I don't really know them because I haven't explored all of them yet, but I am going to explore all of them and see what options that I might like to apply for (Participant #8, 11/26/2011).

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> Maybe farming, dairy farmers, I like farmers, other than that not really…because like the jobs that are out there besides farming, farming to me is like growing your own plants, vegetables and your own fruits and that's what I really want to do. I really don't want to….you know like a farm manager, I don't really want to do that I just want to have fun in the dirt I guess (Participant #8, 11/26/2011).

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> …well it was in my Fundamental of Agriculture class…I think we all did a project on, we all went in and did research on careers in agriculture, there are all different types of careers, some as simple as working in pet shops, some as farmers, researchers and we all did projects based off that and we all did presentations and wrote a paper about those jobs and we did another project about animals… (Participant #1, 11/11/2011).

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> …just because there is so much you can do to be involved in agriculture, there is like a lot of different areas like to work in it and stuff… like I know a lot of like different things like farming and produce type of things and like gardening type…I don't know (Participant #5, 11/19/2011).

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> I think it would be like everywhere, the reason why I say almost everywhere because there are places in Africa or in Europe where people can go and they can work on farms and factories and you know do other things and other activities, and stuff for the FFA and agriculture as a whole and then there are things in the United States that we can do like be like a trucker and drive and travel throughout the United States and travel with the bees and stuff like that because you know they are bee keepers…yeah it was crazy when I heard about it but like yeah (Participant #9, 11/26/2011).

Some of the responses that students gave about higher level careers that individuals could pursue in agriculture related areas include:

> …you know you could be a teacher at a high school like Ms. James (the Ag Teacher)….you know the basic grooming, grooming pets, a smaller jobs, pet stores and then I know some of the higher jobs are like they get into food science, and a they study the genes how to like make clones of genes and animals actually… and to increase the food for America and the whole world so there is more food for the people and I think that's one of the higher things and like you have like agricultural engineering which is which could lead up to, they could go into anything like the technicians working on the machines that do the research work, that they go in-depth into the genes, and all different aspects and you know machines that are used on farms that type of stuff (Participant #1, 11/11/2011).

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> Besides like working with animals and food…I think business as well but to a certain extent because you have to manage things and you have to be accountable for things and be responsible and overall like handle the things that comes out of agriculture… I think Morrill University is like a good engineer school and so like you could be a food engineer or like a food scientist or an animal scientist... you could be things of that range or like business and stuff (Participant #9, 11/26/2011).

Students were also asked to identify some of the institutions and organizations that individuals who have higher education in agriculture related areas could be employed. Some of the students were able to identify large agricultural agencies and organizations such as the United States Department of Agriculture (USDA) and FFA while others were unsure. Some of the students' responses were: "…like the USDA, the FFA, that's about it that I know off the top of my head" (Participant #2, 11/11/2011); "I honestly don't know…am not sure of any professional places if I had a degree where I could work" (Participant #1, 11/11/2011); "The zoo, the greenhouses you know that kind of stuff" (Participant #7, 11/25/2011); "Probably farming companies or farms or agriculture companies, like I don't know, I am not sure what kind of job you can get" (Participant #6, 11/19/2011).

> like some of the southern states where they have lots of land that they use to farm and also here in the Midwest they have a bunch of corn fields, from around here, I think it's Agri Gold is one of the companies and stuff like that (Participant #2, 11/11/2011).

In addition to the two major categories that emerged from the data in response to students' perceptions about higher education and careers in agriculture, three subcategories also emerged: The first subcategory is:

Students thought that agriculture education is important and emphasized the critical role that agriculture plays in food production.

Although many of the students had limited knowledge about higher education and careers in agriculture they emphasized the importance of agricultural education and the

critical role that agriculture plays in food production for the nation. For example three of the students stated: "Yeah I mean…I think farming is important, that's where we get a lot of our food and just like all of our resources" (Participant #5, 10/19/2011); "I think it is important because we are going to need the fruits and vegetables" (Participant #8, 11/26/2011); "… I feel like they are needed because we need to understand the plants and stuff and where our food comes from so I think that the classes are needed" (Participant #7, 10/25/2011).

Other students gave more detail descriptions about the importance of agricultural education and the role of agricultural in food production, human growth and development:

> ...I feel that if we didn't have agriculture that more people would die…like it would be hard to keep living on if we didn't have agriculture, people who are working to make things better for everyone else as in food science…you know if the population is increasing and if we can't find a way to make more food then how is everyone going to eat and how are people going to live? (Participant #1, 10/11/2011).

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> Agriculture is really necessary for our communities it produce all the fruits and vegetables that we eat so in order to stay healthy and to have a healthy life style it is necessary and also it provide people with jobs and also it helps people pursue something that they are interested in cause lots of opportunities to plants stuff and do what they love doing (Participant #2, 10/11/2011).

> Yes because I feel like people need to know where their food comes from, like what the earth is turning into prior to what it was like before …like back in the day, people ate like real food (Like real plants, I guess you can say like tomatoes that's planted in the ground without chemicals and sprays like pesticides and stuff…just real grown food, fresh foods and fresh vegetables) and lots of vegetables and like stuff they just take out their garden and now like a lot of people eat a lot of process foods and like GMOs (Genetically Modified Organisms) probably (Participant #7, 10/25/2011).

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I do think it is important and the reason why I think it's important is because it has a big impact and influence, and like it affects almost everyone in different ways, well most people don t realize it but it does whether it's how much food in your house and how much it will cost or if it's your animals and the animal vet, it's just a range of things (Participant #9, 10/26/2011).

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I see…in like the adults and stuff I see it as very important but in the students there are a variety of things that are important to them so it's not necessarily fundamental of agriculture or agricultural education or FFA but some of them I would say possible have interest in the agricultural education and most of them minds wonder off…yeah (Participant #9, 10/26/2011).

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No, not really, I didn't see anything that really inspired me to want to do what they do. It was something that interest me that it's something I may look into but not necessarily make me want to go out and learn how they do it and want to do with my life…I still think that it's very important, it's something that we need to survive and when I talked to people at the convention they worked hard to make sure that we as a nation and as a planet basically have food so that we can eat and we don't die off. So I honestly think that it's a very important part of the world and education all together is important (Second interview with participant #1, 11/10/2011).

The second subcategory that emerged from the data is:

Students' awareness and interest in 4-H, FFA and Supervised Agricultural Experience (SAE)

Many of the students stated that they were interested in 4-H, FFA and SAE. Some of the students had the basic idea of what 4-H, FFA and SAE entails while others were

unsure. During the period when classroom observations were conducted the researcher observed and recorded notes in her journal about some of the FFA activities that the students were involved in. For example during several of the classrooms visits and observation sessions the agricultural science teacher guided students through various activities and discussions about the FFA organization. Students were involved in various FFA projects where they had to draw the FFA emblem; learn the FFA motto; and learn the colors of the FFA. Based on the researcher's observations the agricultural science classroom had lots of posters and information about the FFA organization. The FFA website was also listed on a poster that was created by the agricultural science teacher titled: *'Useful Websites.'*

On a number of occasions the agricultural science teacher was observed guiding students through the FFA website. During the period when the data were collected the FFA convention was scheduled to occur. Based on my discussion and interviews with some of the students they were excited about attending the FFA convention and were interested in learning about how they could start a FFA chapter at their school. The SAE was not in full operation but the agricultural science teacher made it clear that the SAE was a critical component of the agricultural science curriculum and plans were on the way to have students become more involved in SAE by the end of the spring semester. When asked to explain what the 4-H, FFA and SAE were some of the students stated: "… yes I do, the FFA is a…the Future Farmers of America and the SAE is a students' agricultural experience program…" (Participant #1, 10/11/2011); "It's FFA like an association that helps people find…you know different types of jobs in agriculture and it gives them a kind of an outline of what they do" (Participant #2, 10/11/2011); "I don't

know….I think they do like research for farms and all that and help…I don't know that's what like my idea is…yeah help on farms and go to…I forget the name…" (Participant #6, 10/19/2011); "Future Farmers of America… yeah that would be fun…I don't really know anything about it (FFA) like that, but I know that they like teach you how to plant stuff" (Participant #7, 10/25/2011). When asked about his involvement with the 4-H one student stated: "…I use to when I was very little… I didn't like it too much…we really didn't do anything fun, it was when I was really little too so" (Participant #2, 10/11/2011). Other students gave more detailed descriptions about their interests in 4-H, FFA and SAE and what they knew:

> I do have some curiosity with FFA… like they name it Future Farmers of America and I want to know like how were people motivated to do such a thing and how the program actually got started, like it got started in 1928 but like they must have some type of fun to actually bring it to be an organization and so many people in the country have actually influence FFA so I know it's like a big important thing to be in (Participant #9, 10/26/2011).

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> No, I do not…but I was thinking about being introduce to FFA members and stuff and being a part of the program in agricultural education because it's important. So yeah, I am interested in being a part of FFA and 4-H… because food and animals are very, very important to us and we rely on them so much for a lot of things and I think if they are so important we should learn and do more to be able to be informed about how they work and stuff so we can use that to our benefit (Participant #9, 10/26/2011).

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> I know, like I have had friends that have done 4-H and I know that there are a lot of things that you can do for it, like not just like animals but like other things too… and FFA am not sure what they do but I know a lot of it has to do with farming (Participant #5, 10/19/2011).
> Farmers association…just around like some jokes like on, the country station…like this guy was going on a tractor or something like that and he say

> FFA and I was just interested in what that meant so I looked it up so and also from this class the ALS plant and soil (Participant #2, 10/11/2011).

Students stated that they were also interested in the supervised agricultural experience and explained how they have been involved. Students' comments about the SAE include:

> The Supervised Agricultural Experience, I would like to be in it because they give you grants for I think the career that you want to be in, that's what I really want to do, they give you money to do your research and to experiment with the career that you choose in agriculture and so it's like maybe I will join SAE (Participant #8, 10/26/2011).

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> Well currently I am working with my family, so basically it's a part of having your own business, so I work with my parents we own a popcorn store, so we make popcorn and you know we sell it that's basically, what it and that's basically what we work on that aspect of SAE (Participant #1, 10/11/2011).

One of the students that was interviewed prior to attending the National FFA convention had an idea of what the FFA was and what the organization does. However, after he attended the National FFA convention he was able to give a better description of the FFA and what the organization does. Prior to attending FFA convention he stated that he was interested in joining the FFA and gave this description of what he thought the FFA organization does and what he would do when he became involved: "Well I think I would get into a lot of volunteer work helping people, horticulture type things, you know making plants, planting trees wherever to help make this greener place a better place" (Participant #1, 10/11/2011). He also spoke about his school's intention to start the FFA in the spring semester:

> …yeah the FFA I like the FFA but we haven't started it yet I think we are supposed to start that second semester but yeah it seems like it could be something that I could really be a part of, I have a few friends who are part of FFA so it seems like something I could really get into and enjoy (Participant #1, 10/11/2011).

This was the student's description of the FFA after he attended the convention:

> Well I know more about FFA… it's basically an organization where young people learn how to be leaders and be leaders in agriculture and how to expand their knowledge about agriculture. There was a lot of different things that I saw, I saw a lot of different careers and looked at and talked to people there. There was a lot of things… livestock, there were people who take care of cows and other animals like that for different reasons…other people they do technical work, like they use machines to work on the farms and actually I think they were a few people there who were farmers. There was a lot, it was a minute ago so I can't remember all of it off hand but I know there were a lot of different professions, a lot of things that interest me (Second interview with participant #1, 11/10/2011).

The third category that emerged from the data is:

Media effects on students' perceptions of higher education and careers in agriculture

The students were asked to share their thoughts about the media portrayal of higher education and careers in agriculture and how the media portrayal of agriculture impacted their perceptions about higher education and careers in agriculture: Based on the responses that the students gave it was evident that the media portrayal of higher education and careers in agriculture had a negative impact on the students perceptions about agriculture. One of the students stated: "I would say they view them as like kinda

the average American, the media has portrayed agriculture like when you think about agriculture you think about just like farmers and running farm machinery and stuff like that" (Participant #2, 10/11/2011).When the participant was asked a follow up question about media portrayal of Ag careers: Does that influence your thoughts about agriculture/Does the media impact your views of agriculture? She stated: "YES! I have to say that it really does because that just pretty much what I think about when I hear about agriculture, I just think of you know a farm and the farm machineries and stuff like that" (Participant #2, 10/11/2011).

Other students provided more detailed descriptions about the media portrayal of higher education and careers in agriculture and how the media portrayal of higher education and careers in agriculture negatively impacted their perceptions:

> Probably boring, it (the media)would make me see them as boring, if I didn't take a class in agriculture it would make me think that agriculture was the most boring thing on earth…they kinda portray agriculture as unneeded, like the world doesn't need agriculture I guess (Participant #7, 10/25/2011).

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> …because like society like TV and like in the media they don't really portray agriculture as something that is important…other things are important… and agriculture is not seen as like necessarily one of them, they don't really think about how people process and make food they just know what the prices are of the food and where to get stuff (Participant #9, 10/26/2011).

On the other hand one of the students had a more positive response about the media's impact on his perception of higher education and careers in agriculture however'

his response also supported what the other students noted about the media portrayal of agriculture as just doing farming and being a farmer. . He stated that: “I have seen the commercials and they are pretty cool commercials, it kinda influenced me also to become a farmer probably because the commercials are awesome” (Participant #8, 10/26/2011).

Major Categories that Emerged from the Data Analysis

Research Question Three

The third research question is:

Why do urban students choose to take agricultural science courses as opposed to other optional courses?

The agricultural science courses that were offered at the urban charter school that the data were collected were classified as optional courses. Unlike many of the core courses that all students were required to take in order to successfully complete their program and graduate, the two agricultural science courses were optional courses. This means that all students had the choice to decide whether or not they wanted to take any of the two agricultural science courses that were offered. The two agricultural science courses that were offered include: an introductory agricultural science course titled ‘Introduction to Agriculture, Food, and Natural Resources’ and an advanced level dual credit course titled: ‘Advanced Life Science: Plant and Soil Science’. The introductory course was offered to students who were taking an agricultural science class for the first time while the advanced level course was offered to students who had taken at least one agricultural science course already. Students who were enrolled in the ‘Advanced Life Science: Plant and Soil Science’ had the opportunity to obtain dual credits upon

successful completion of the course. The dual credits that students would benefit from include four college credits and two science credits towards their high school diploma. The college credits were transferable higher education institutions such as Morrill University, Lakeview Community College and many other colleges and universities. In addition, as an early college high school students who enrolled in advance level courses also had the opportunity to obtain an associate degree.

When students were asked about their main reasons for choosing the agricultural science courses over other optional courses, the students highlighted three key factors that impacted their decisions. Most of the students stated that they chose to take the agricultural science courses because they were better than the other optional courses which include Art, Drama and Speech. The students stated that they loved science and appreciated the scientific nature of the agricultural science courses that were offered. The students also stated that they chose to take the agricultural science courses over other courses because of their ability to obtain college credits and obtain an associate degree upon successful completion of their program. Three main categories emerged from the data which provide detailed descriptions about students' responses. Figure 4.3 shows the interrelationship between the three major categories, the codes and supporting excerpts from the interview transcripts.

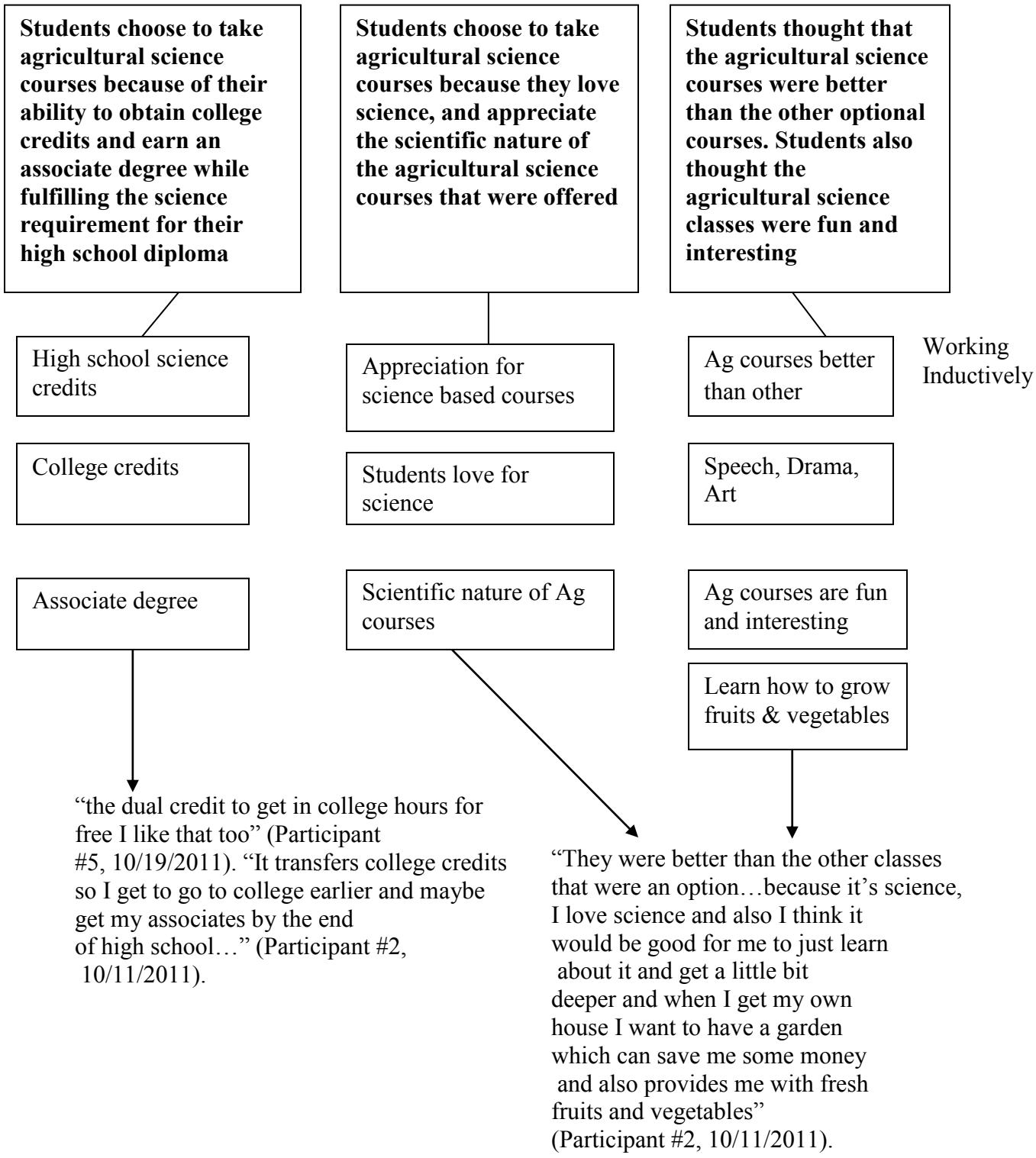

Figure 4.3 Research Question 3: Interrelationships between Categories, Subcategories and Codes. Adopted from "Essentials of Qualitative Inquiry," by M. J. Mayan, 2009, p. 96. Copyright 2009 by Left Coast Press, Inc.

Students choose to take agricultural science courses because of their ability to obtain college credits and earn an associate degree while fulfilling the science requirement for their high school diploma

The responses that the students provided made it clear that they were very interested in taking the agricultural science courses and were excited about the benefits that they could obtain from enrollment in these courses. All of the students spoke about the dual credits that they could obtain as well as their ability to obtain an associate degree upon successful completion of their program of study. Some of the students gave brief comments such as: "It's an elective but you get Morrill University credits, like you get four credit hours I think…" (Participant #7, 10/25/2011); …the dual credit to get in college hours for free I like that too" (Participant #5, 10/19/2011); "Yeah, the credit hours that we get through it, yeah" (Participant #5, 10/19/2011); "...college credits for the ALS soil science…it transfers college credits so I get to go to college earlier and maybe get my associates by the end of high school…" (Participant #2, 10/11/2011); "Because it's Morrill University college credit so I will get college credits to go to Morrill University or other local universities and I am good at science, I like it a lot and it's fun" (Participant #7, 10/25/2011). Other students gave more in-depth responses about the courses and the reasons why they chose to take the agricultural science courses as opposed to other optional courses:

> it's like an early college program and this school has one and some other schools have them too so if you are in high school you can go into a college for a discounted price or for free and you can get some of your college courses done while you are in high school (Participant #2, 10/11/2011).

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> It means that since it's a college credit class while you are taking it at school at the end of the year Morrill University send an exam and when you pass it and stuff and you are done taking it you have accumulated four credits college hours for agriculture related at Morrill University and I think it transfers over to some other colleges too as an elective… (Participant #7, 10/25/2011).

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> I did have a choice and I did stay but it does count towards my… I believe towards my Core 40 degree when I graduate high school, it's part of one of those science classes that I need to take so I would say yes and no so it has some significance to me graduating and it was something that I had a choice to do (Participant #1, 10/11/2011).

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> It's optional, so I chose to keep the class and take it because they did tell us that we do get Morrill University credits and if I did choose to go to Morrill University that would be something that's a big help (Participant #1, 10/11/2011).

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> I don't know it was just something that I like about it…and it's just something interesting that I would like to keep on doing and plus I get college credits so I really want that, the Plant and Soil class I do get college credits that are transferable to Morrill University (Participant #1, 10/11/2011).

Another student stated that the agricultural science classes were science electives and she spoke about her interest in learning how to grow her own fruits and vegetables as well as obtaining science credits:

> I think all students take the same classes because you going to need like biology, chemistry and like science elective and agriculture is science elective…so I am taking it because I need the credit and also I want to learn how to grow my own plants and my own vegetables and fruits (Participant #6, 10/19/2011).

Another student who was enrolled in the introductory agricultural science course spoke about how she learned about the advanced agricultural science course and expressed her interest in taking the class but after consulting with the agricultural science teacher she learned that she couldn't take it until the next academic year. She stated:

> I think that was for Morrill University, yeah I was looking at the poster today and I was like Ms. James do you have a package or something for this because I really want to take it. I really want to take plant and soil (ALS) because I need it for my core 40 so I can graduate and she was like you have to be a junior and I was like oh am not going to be there until next fall... (Participant #8, 10/26/2011).

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> Because I really want an agriculture associate I think, I really want that also and then like I said before I really want to learn how to plant and grow my own fruits and vegetables…I find it kinda interesting like when I get older or what not I can do a little farming myself. The main reason I got into agriculture is because I was in Summer Advantage Program and the teacher showed us a video about what people be putting in the food, like genetics and I didn't like that, I didn't like when they put genetics stuff in fruits and vegetables in food like that. So I was like I am going to learn how to grow my own fruits, grow my own vegetables so I don't have no genetics stuff in it…I don't like that, that stuff kills you sometimes (Participant #8, 10/26/2011).

The student added:

> I took it because I heard that they have an agriculture associate degree with it and I also wanted to learn how to plant my own fruits and my own vegetables, so yeah that's the main reasons why I choose it (Participant #8, 10/26/2011).

The second category that emerged from the data in relation to students' main reason for choosing agricultural science courses as opposed to other optional courses is:

Students choose to take agricultural science courses because they love science, and appreciate the scientific nature of the agricultural science courses that were offered

All of the students who participated in the study spoke extensively about how much they love science and how they appreciated the scientific nature of the agricultural science courses that were offered. Many of the students also spoke about some of the principles and concepts that they learned about in other courses such as chemistry and biology and how those concepts were related to what they were learning in the agricultural science courses: Several of the students gave brief comments while others gave more detailed descriptions about their interests in science and how the agricultural science courses helped them to understand the practical application of scientific principles in their daily lives

Students stated that: "I like the fact that it was a science class, I like science a lot…" (Participant #5, 10/19/2011); "I mean since agricultural things are based off science I have had history with science, but in the agriculture field not as much" (Participant #9, 10/26/2011); "Well like right now we are kind of reviewing a lot of biology and I have really enjoyed biology in the past…" (Participant #5, 10/19/2011); "Yes, yeah I love science…" (Participant #2, 10/11/2011). Another student stated: "I choose to take it (ALS) because I am good in science and when I found out that you get science credits, I said sign me up, put me down for that" (Participant #7, 10/25/2011). She went on to give further thoughts about the agricultural science courses she noted: "She (the Botany teacher) told me I was really good in science and I should continue to do science about plants and stuff" (Participant #7, 10/25/2011). Additionally she argued that "Because it's Morrill University college credit so I will get college credits to go to

Morrill University or other state universities and I am good at science, I like it a lot and it's fun" (Participant #7, 10/25/2011).

Other students gave more detail descriptions such as:

> Because its science, I, I love science and also I think it would be good for me to just learn about it and get a little bit deeper because am wanting to plant some other types of vegetables and a garden and when I get my own house I want to have a garden which can save me some money and also provides me with fresh fruits and vegetables (Participant #2, 10/11/2011).

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> I choose to take it because it's something that a person wouldn't think of, it's like a different field in science…so I usually think of chemistry and biology and stuff and because it was like a different form of science I was like oh it probably be interesting to learn a lot more than you originally do in biology and stuff that are required to take (Participant #9, 10/26/2011).

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> …and also it's like learning about science in general so I thought it would be useful and then some of the teachers they bring in science so they…that makes me want to do more science and they are cool people also…yeah, yes I think it will…it will help me, you know maybe if we find an animal that have some sort of algae or something attached to it so it's science so that will be helpful (Participant #2, 10/11/2011).

The third and final category that emerged from the data as it relates to students reason for choosing agricultural science courses as opposed to other optional courses is:

Students thought that the agricultural science courses were better than the other optional courses. Students also thought the agricultural science classes were fun and interesting

In addition to the other two main reasons that students gave for choosing agricultural science courses as opposed to other optional courses students made it very clear that the agricultural science courses that were offered were more interesting and fun. They emphasized that the agricultural science courses were better than the other optional courses that were offered and they gave a list of some of those other courses that they could choose but didn't because of they were more interested in the agricultural science courses. Some of the courses that the students listed were: Spanish, Speech, Drama and Art. One of the students stated that: "They were better than the other classes that were an option" (Participant #2, 10/11/2011). He went on to give more in-depth description for his reasoning. He emphasized his interest in the agricultural science courses and how agricultural science courses could contribute to the development of a garden for the school which could provide farm produce for the school cafeteria:

> There was golf I believe…or something and I didn't want to take that because am not very interested in that but in horticulture I have my garden and I thought it would be nice for our school to get a garden together and also for our cafeteria for food so we can eat because I love to eat (Participant #2, 10/11/2011).

Other students spoke about some of the other optional courses that they could take and how they went about making the decision to choose agricultural science courses instead of others: One student stated: "I could probably take like Art or Drama or Speech or something, am not sure what else was there…. yeah, I would rather have more advanced classes on my schedule than just like easier ones…" (Participant #5, 10/19/2011). Another student stated: "…the counselors showed me the classes that I could take and they told me to choose one and I chose this one (ALS)" (Participant #6, 10/19/2011). Other students gave similar responses and provided broader descriptions

which strengthen the claim that the agricultural science courses were considered as better courses in relation to the other optional courses that were offered:

> …Art and Spanish, golf, rap class and other classes, I asked the teacher what this class (ALS) was about and she told me that it was about plants and agriculture and all that and I said well that sound interesting I would like to do that…so that's why (Participant #7, 10/25/2011).

Other students spoke about how the agricultural science courses were fun and interesting and how they enjoyed the classroom interactions: One student stated: "I think it's (Agricultural Science class) an eye opener and it's interesting, so yeah! (Participant #9, 10/26/2011).When asked about her interest in the class another student stated: "Somewhat, somewhat! It's interesting but sometimes am not all that interested in it, so yeah it's in between… well I find the animals interesting and like the plants and the fruits" (Participant #8, 10/26/2011). Another student noted: "….just that it's fun and interesting and we are learning a lot and there were things that I didn't know and now I know so I like it" (Participant #6, 10/19/2011). Additionally she spoke about her discussion with the agricultural science teacher about the course, she stated: "…I asked the teacher what this class (ALS) was about and she told me that it was about plants and agriculture and all that and I said well that sound interesting I would like to do that…so that's why" (Participant #6, 10/19/2011). Another student provided a similar response but gave more detailed description about his interest in taking the agricultural science courses:

> I don't know it was just something that I like about it…and it's just something interesting that I would like to keep on doing...it would be just a…the interaction, the fun...something fun it's something that betters me as a person you know, and I like that, I like to better myself…so that's how I would say it (Participant #1, 10/11/2011).

Major Categories that Emerged from the Data Analysis

Research Question Four

The fourth research question is:

How does teaching agricultural science in an urban charter school differ from rural school?

The administrators who participated in the study had experience in working in urban as well as rural school settings. All of the administrators had prior experience in working in traditional public schools as well as charter school settings. As such they were asked to share their thoughts about the difference between teaching agricultural science courses in urban charter school as compared to rural school. Based on the participants' responses three major categories and one subcategory emerged from the data: Figure 4.4 shows the interrelationship between the three major categories, one subcategory, the codes and supporting excerpts from the interview transcripts

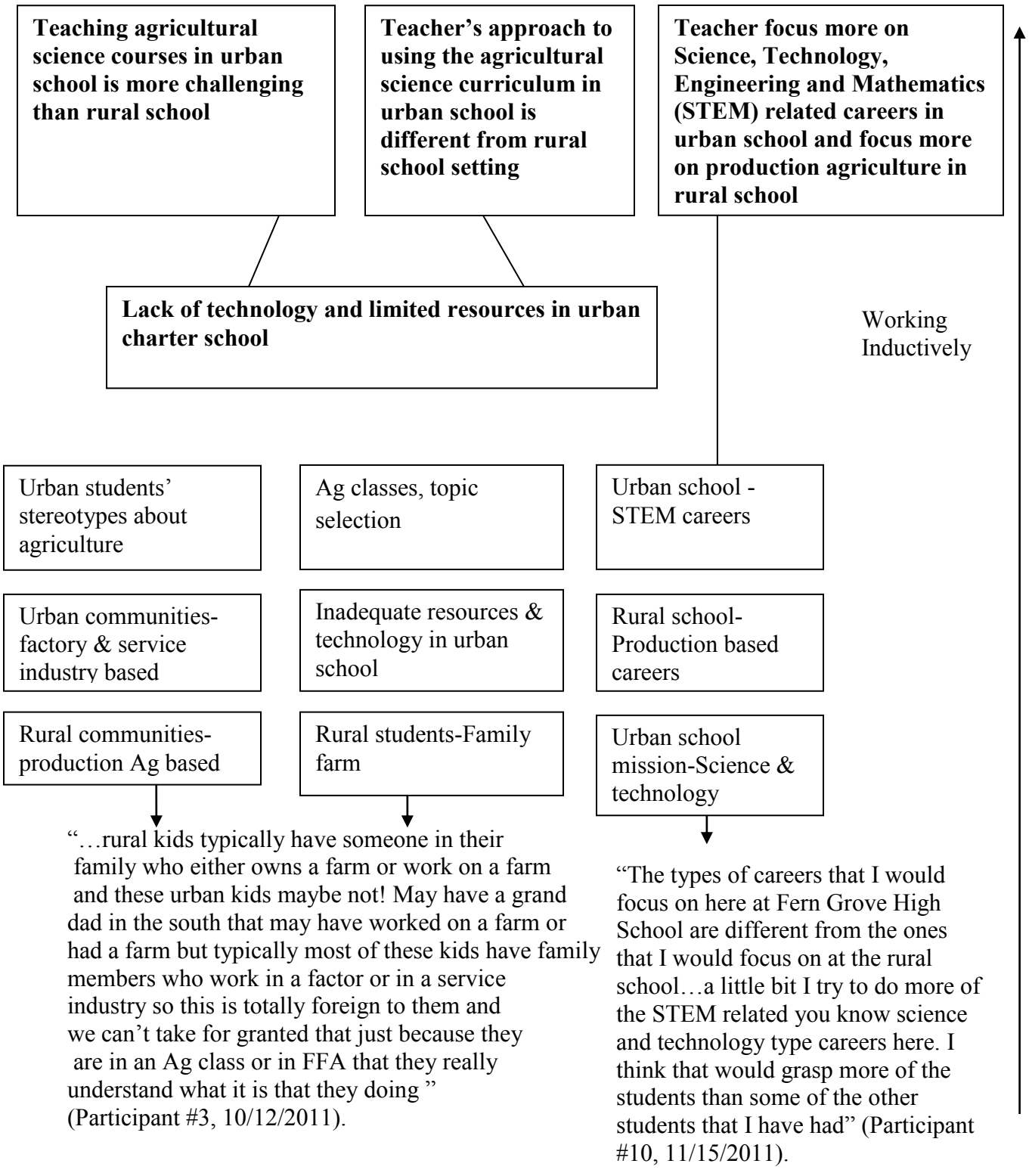

Figure 4.4 Research Question 4: Interrelationships Between Categories, Subcategories and Codes. Adopted from "Essentials of Qualitative Inquiry," by M. J. Mayan, 2009, p. 96. Copyright 2009 by Left Coast Press, Inc.

Teaching agricultural science courses in urban school is more challenging than rural school

Participants thought that it was more challenging to teach agricultural science courses in urban school in comparison to rural school. The participants argued that agriculture is not a natural flow for urban students while rural students generally have some form of agricultural background since they are surrounded by agriculture in rural communities:

> … in the urban setting it is more challenging because it's not a natural flow…or it's second nature to the kids… at the rural school it's all around them, it was not kind of second nature to them…you know most of the students were involved in farming either they had a farm at their family home or they work for a farmer during summer months, so it was more of an easy transition and an easy flow for them…but here at the urban school it's more of a challenge because agriculture is not all around them and they don't realize what it all entails so you have to go back to the basics and back all the way to square one so you have to break things down more for them so it's more of a challenge in that way than at the rural school (Participant #10, 11/15/2011).

Another participant noted that rural students are more likely to have family members who own or operate farms while urban students are more likely to have family members who are employed in factories or service industry:

> …rural kids typically have someone in their family who either owns a farm or work on a farm and these urban kids maybe not! May have a granddad in the south that may have worked on a farm or had a farm but typically most of these kids have family members who work in a factor or in a service industry so this is totally foreign to them and we can't take for granted that just because they are in an Ag class or in FFA that they really understand what it is that they doing so Ms.

> James has to do a lot of teaching and I am just here to supply her with what she needs (Participant #3, 10/12/2011).

The second category that emerged from the data is:

Teacher's approach to using the agricultural science curriculum in urban school is different from rural school setting

One of the participant stated that based on the nature of urban students' communities the approach that is used in urban school setting as it relates to the agricultural science curriculum is somewhat different from rural setting. The participant emphasized that when teaching agricultural science in urban school topic selection is a key component. The topics that are selected in urban setting must be relevant and related to what urban students see on a daily basis in their urban communities:

> …the approach to using the curriculum in an urban setting in comparison to a rural setting is different…well I mean just the topics that you choose…you need to make sure that they are more relevant to what they see…so if I would go into our plant science course and started to talk about you know corn and corn alone that would not get the urban setting going as it would maybe in a rural setting… (Participant #10, 11/15/2011).

> …you need to make sure that you get to know the dynamics of the students, their background and what the community is around them and then you have to take the curriculum and approach it to them in their way so in the rural school there is a lot of…you know the community was a lot different. There was a lot of horse farms and production crops as well so you could take that and apply it and talk to them about that because they understood it because they saw it every day…but in an urban school you have to make sure that you take the agriculture that they see in the day...and sometimes they don't realize that that's agriculture that they see in the day but then you have to make them realize that that is agriculture that they do see in the day and you have to approach the curriculum and tailor it to their needs because they are completely two different needs there…(Participant #10, 11/15/2011).

The third category that emerged from the data is:

Teacher focus more on Science, Technology, Engineering and Mathematics (STEM) related careers in urban school and focus more on production agriculture in rural school

Career exploration in agriculture related areas is a key component of the agricultural science curriculum. Therefore, participants were asked to share their thoughts and experiences as it relates to career exploration and development in urban classroom. One of the participants who was the agricultural science teacher at the urban school also has over three years experience in teaching agricultural science in a rural school. The participant stated that the careers that she typically focus on when teaching agricultural science in rural school is somewhat different from urban school. She noted that while Science, Technology, Engineering and Mathematics (STEM) related careers are explored in both rural and urban school settings, she tend to focus more on STEM careers in urban classroom. Additionally, she indicated that careers related to production agriculture are easier to focus on in rural school because the students are surrounded by agricultural production within their rural communities. However, urban students are not interested in production agriculture related careers based on the nature of their urban communities. She noted "Well I think that STEM career is more attractive to the students here…" (Participant #10, 11/15/2011). She went on to give more detailed descriptions and explanation for her reasoning:

> ... the types of careers that I would focus on here at Fern Grove High School are different from the ones that I would focus on at the rural school…a little bit I try to do more of the STEM related you know science and technology type careers here at Fern Grove High School because I think that would grasp more of the

students than some of the other students that I have had… (Participant #10, 11/15/2011).

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Well I think mainly it would be because of what the goal of this school is…since it is an early college high school for science and technology I try to focus more on that science and technology aspect than I would focus on the production side. When I was at the rural school there was a lot of production in the area so it's easy to focus on that but I also focus on the science and technology aspect of it as well because there are a lot of students who are advanced in that area and enjoyed the science and technology so it was more of a balance at the rural school with production and the science and technology based Ag careers...but here it's more just science and technology based…I don't focus too much on the production side of agriculture because they are not interested in learning about steers…because they don't even know.. . it's hard to talk to them about steers because a lot of them have never seen a cow before…so I try to stay away from…a mean we talked about production but we don't focus on production…I introduced it to them because I think it's important for them to understand where things come from because without production there wouldn't be a lot, but career wise I focus more on science and technology based than I would on production but in the classroom the balance is still there (Participant #10, 11/15/2011).

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I try to expose them to as many career options in agriculture as possible…we have career journals that they have to do where they have to explore agricultural careers and I continue to give them stats of how big of an industry agriculture is because they don't realize that most of the jobs out there are related to agriculture so I just try to emphasize that as often as I can. So whenever we do anything, a lesson or anything in class I try to always tie in an agricultural career that goes along with it so that they can see that it's not just being a farmer and that there are lots of careers out there for them…so am hoping that they are receiving the message… (Participant #10, 11/15/2011).

In addition to the three major categories that emerged from the data as it relates to the difference in teaching agricultural science courses in urban versus rural school one subcategory also emerged from the data:

Lack of technology and limited resources in urban charter school

The administrators spoke about the challenges that they face in urban classroom due to lack of adequate technology and resources for the educational programs. The administrators noted that the lack of technology and resources negatively impact the activities that they would like to incorporate both in agricultural science courses as well as other courses that are offered at the school. One of the administrators also noted that based on her previous experience in teaching in a rural school, the urban school seem to have more challenges as it relates to availability of technology and resources for the educational programs that they offer. The administrators' comments about the lack of technology and resources within the urban charter school were further supported by the researcher's observations and journal entries. Pictures that were taken of the agricultural science classroom that supported such claim are presented in Appendix D and supporting quotes from the administrators are presented below:

> My biggest need is technology…I need computers for another lab especially to move Project Lead the Way into the building and I think that would be a huge plus, not only for agriculture but for the whole bioengineering piece and I would also like to have 1:1 computer ratio even that just using Ipads that would allow students to have access to anything here at school or at home, that's how this generation think it works and if I can't provide that for them that makes the school seem inadequate , both from technology side and the agricultural point of view as well… (Participant #3, 10/12/2011).

> …one of the biggest things that would be useful for me is if I had the technology in the classroom. In my classroom I only have two computers that are hooked up to the internet…I think it would be a lot easier to get to these kids because nowadays kids are a lot more tech savvy and want that hands on…having the computer there, the technology at their fingertip so just having technology alone in the classroom would be a tremendous help because I like to use that in my teaching because at the rural high school I did have a one to one ratio of student to computers so each student had a computer in my classroom so it was a lot easier and I was able to use the internet and all the resources that are on it a lot easier than I do here…here I have to find it all, print it off, give it to them so instead of them having to have that thrill of finding it on their own. And then for the more science based assignments and things I would like to have a lot more science equipment more than what I have currently… but just having a lot more science technology like electronic balances. I don't have any of those here if we had more higher powered microscopes we could get into some more things. I do have a sterile hood back there which is nice but I don't have a lot of supplies to use that with. I mean we lack a lot of chemicals and science supplies as well so I think technology and then the science supplies would be a big help and good resources…(Participant #10, 11/15/2011).

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> I have less of the resources here in the urban school because at the rural school I had all the technology and all the high end science equipment…I had all the technology and all the high end science equipment at my finger tip there but here I have the classroom but no technology or high end science equipment (Participant #10, 11/15/2011).

Summary of Document Analysis and Researcher's Observations

In addition to observations and the individual interviews that were conducted with the participants of the study, the researcher collected various types of documents from the research site and the participants. The documents that were collected contain valuable information that is relevant to the purpose of the study. The researcher compiled several different types of documents during her visits to the school which served as a technique

for triangulation for the study. Creswell (2007) argued that the foundation of qualitative inquiry is based on extensive data collection that are generally from several different data sources. The documents that were collected included pictures of the agricultural science department and the students' activities and displays; agricultural science course syllabi; newsletters that were publish by the school; newspaper articles that were published in local newspapers; curriculum guides; existing program records and documentations; existing data on agricultural science students enrollment; graduation rates and students who moved on to higher education and careers in agriculture and related fields; program goals and mission; student recruitment brochures as well as other relevant data sources that were available.

All of the documents that were collected were analyzed and provided supporting information for the categories and subcategories that emerged from the data. For example the agricultural science course syllabi provided detailed information about the various topics that were covered in each agricultural science course. One of the main topics that is relevant to the purpose of the study is the exploration of agriculturally-related careers. An analysis of the documents revealed that the course syllabi for both of the agricultural science courses provided rich thick descriptions about career exploration and development. Additionally, students were observed working on group projects such as career journals. This activity provided students with the opportunity to browse the FFA and the Unites States Department of Agriculture (USDA) websites which were some of the websites listed on a poster in the agricultural science classroom and was noted in the researcher's journal. Observations of the agricultural science department and pictures that were taken by the researcher also provided further support for the categories that

emerged from the data. For example pictures of the agricultural science classroom supported the claim that there was a lack of technology and limited resources in the urban charter school (See Appendix D).

Based on the researcher's observation students were actively involved in FFA projects and activities although the school did not have a formal FFA chapter at the time when the data were collected. Such observation served as critical data source because FFA is a major component of the agricultural science curriculum. Classroom observations and pictures of students' activities display showed students FFA posters which provided information about the FFA organization such as the FFA motto, the FFA colors and FFA emblem. The agricultural department also had posters and information display about higher education institutions such as Purdue University that offered agricultural education programs. A small number of agricultural science literature and textbooks were also available in the agricultural science classroom bookcase. Students were observed using those textbooks for reference materials for their classroom activities (See Appendix D).

Another important factor that was highlighted based on the researcher's observations and field notes that were gathered through discussions with administrators was the inclusion of faculty mentors from higher education institutions that offers agricultural education programs. The administrators stated that faculty members could help to increase urban students' interests and awareness of the wide array of academic majors and careers in agriculture. They also suggested that faculty members could provide agricultural science information sessions on a regular basis at urban schools in order to ensure that students are informed. The administrators noted that agricultural

science information sessions are particularly important at the beginning of each semester in order to help students make informed decisions relative to the selection of agricultural science courses.

CHAPTER 5: SUMMARY, RECOMMENDATIONS AND IMPLICATIONS

Summary

The study specifically examined administrators' perceptions about incorporating agricultural science courses into urban school curricula; the difference between teaching agricultural science in urban charter school in comparison to traditional rural public school; urban students' perceptions about higher education and careers in agriculture; and the main factors that contributes to students' decisions to take agricultural science classes as opposed to taking other optional classes.

The findings revealed a series of assertions. The first series of assertions respond to the initial inquiry into administrators' perceptions, ideas, and concerns relative to the infusion of agricultural education. There were two major categories that emerged from the data:

1. The infusion of agricultural science courses into urban school curricula give urban students a different way of looking at science

2. The infusion of agricultural science courses into urban school curricula helps to enhance the science and technology focus of the school

In support of the two major categories the administrators made it clear that the incorporation of agricultural science courses into urban school curricula gave urban students "different ways of looking at science" (Participant #3, 10/12/2011).

Additionally, administrators argued that the incorporation of agricultural science courses into urban school curricula helps students learn how to use the practical application of biology and chemistry into their everyday lives. The administrators also spoke about the science and technology focus of the school and emphasized the vital role that the agricultural science courses play in both areas. For example the administrators indicated that they were interested in providing all of their students with four years of science which include agricultural science courses such as: Advanced Life Science: Plant and Soil Science; bioengineering; biotechnology; along with other general science courses such as chemistry and biology.

The two subcategories that emerged from the data relative to research question one are:

1. Agricultural science courses help to break urban students' stereotypes about agriculture

2. Agricultural science courses help to bring in more state funding for educational programs

The administrators indicated that urban students had various stereotypes about higher education and careers in agriculture. Many of these stereotypes were developed based on the nature of urban communities and the lack of awareness about the agricultural industry in general. Therefore, administrators thought that the incorporation of agricultural science courses in urban school curricula could play a vital role in increasing students' knowledge and understanding about agriculture and ultimately break those stereotypes that have been formed due to lack of knowledge.

Additionally, the lack of funding for educational programs within the charter school that the study was conducted was a critical issue at the time when the data were

collected. The administrators emphasized the vital role of State funding for Career and Technical Education programs. Agricultural science courses are classified as Career and Technical Education courses so the administrators were able to access those funds which provided major support for their educational programs. Specifically, the State funding for Career and Technical Education programs helped the school in hiring and paying the salary of a full time agricultural science teacher. This was a major milestone for the school because in the past years the school only had a part time agricultural science teacher who was shared with another local high school which limited the school's ability to implement a full agricultural education program that included all the major components of the agricultural science curriculum.

In response to research question two, the second series of assertions were based on the comments and responses that the students provided as it relates to their perceptions about higher education and careers in agriculture. Students' responses and comments made it clear to the researcher that the students had limited knowledge about the various areas of study and careers that they could pursue in agriculture. Two major categories and three subcategories emerged from the data analysis which provides further descriptions about students' perceptions about higher education and careers in agriculture. The two major categories that emerged from the data are:

1. In general urban students had mixed views about higher education and careers in agriculture and were unaware of the various areas of study/majors that they could pursue

2. Urban students had limited knowledge about the various careers that they could pursue in agriculture and related fields which impacted their perceptions about possible pursuing a career in agriculture or related fields

Based on the data analysis and the major categories that emerged it appeared that the students who participated in the study had limited knowledge and understanding pertaining to higher education and careers in agriculture. While few of the students were able to identify academic areas that they could major in agriculture such as food science, plants and soil science, most of the students were unable to identify academic areas that they could major in. Similarly, only few of the students were able to identify advanced level careers that they could pursue in agriculturally-related fields. For example few of the students identified careers such as agricultural science teacher and food scientist while most of the students attributed agricultural careers to basic activities such as working on the farm, working in pet shops, and working on farm equipment in the field. From their responses it was clear that their views of agriculturally-related majors and careers were predominantly related to basic farming practices and such views negatively impacted their interests in wanting to major or pursue a career in agriculturally-related fields.

The three subcategories that emerged from the data analysis relative to research question two are:

1. Students thought that agriculture education is important and emphasized the critical role that agriculture plays in food production

2. Students' awareness and interest in 4-H, FFA and Supervised Agricultural Experience (SAE)

3. Media effects on students' perceptions of higher education and careers in agriculture

While students had limited knowledge about higher education and careers in agriculture and did not necessarily want to pursue higher education or careers in agriculture they emphasized the importance role that agriculture plays in food production for the nation. Additionally, most of the students expressed their interests in agriculturally-related organizations and activities such as 4-H, FFA and Supervised Agricultural Experience (SAE). At the time when the data were collected the school did not have a well-developed 4-H, FFA or Supervised Agricultural Experience (SAE) program but the students and administrators were enthusiastic about having those programs and activities fully developed by the end of the spring semester.

Urban students' lack of knowledge and awareness about higher education and careers in agriculture negatively impacted their perceptions about pursuing higher education and careers in agriculture. However, it is also important to note students' responses and comments relative to the impact of the media on their perceptions of higher education and careers in agriculture and related fields. From the students responses it was evident that the media had a negative impact on their perceptions about higher education and careers in agriculture and related fields. One of the student's comments during the interview provided a good description of the impact of the media on students' perceptions about higher education and careers in agriculture and related fields. Although stated in other forms the following comment captured the views that were shared among most of

the students who participated in study as it relates to how higher education and careers in agriculture are portrayed in the media, one student stated:

> Probably boring, it (the media) would make me see them as boring, if I didn't take a class in agriculture it would make me think that agriculture was the most boring thing on earth…they kinda portray agriculture as unneeded, like the world doesn't need agriculture I guess (Participant #7, 10/25/2011).

The third research question generated a series of assertions which provide explanations in regards to the students' main reasons for choosing to take agricultural science courses as opposed to other optional courses. Three major categories emerged from the data that captured what Creswell (2007) and Van Manen (1990) described as the "universal essence" that were shared among all the students who participated in the study. The students reasoning behind their decisions to take agricultural science courses as opposed to other optional courses were based on the idea that they could earn college credits while they were still in high school. In addition to earning college credits the students were also able to earn an associate degree upon successful completion of their educational program. Therefore, students' decisions were based on the added benefits that they could obtain while fulfilling the requirements for their high school diploma.

During my interviews and discussions with the students they shared their thoughts about their appreciation of the science intensive nature of the agricultural science courses that were offered. Based on the students' responses and comments it was evident that they loved science which played a major role in their decisions to take the agricultural science courses. The students highlighted the fact that the agricultural science courses were related to other science courses that they take which include biology and chemistry. In addition to their appreciation for the scientific nature of the agricultural science

courses and the added benefits that they could obtain, the students went further in providing other reasons for their decisions to take the agricultural science courses instead of other optional courses. The students described the agricultural science courses as fun and interesting and they emphasized the idea that the agricultural science courses were better options in comparison to other courses such as Speech, Art and Drama. The three major categories that emerged from the data that gave a general view of students' responses are:

1. Students choose to take agricultural science courses because of their ability to obtain college credits and earn an associate degree while fulfilling the science requirement for their high school diploma

2. Students choose to take agricultural science courses because they love science, and appreciate the scientific nature of the agricultural science courses that were offered

3. Students thought that the agricultural science courses were better than the other optional courses. Students also thought the agricultural science classes were fun and interesting

In response to research question four a fourth series of assertions were generated. These assertions were indicative of administrators' shared views in regards to the difference between teaching agricultural science courses at an urban charter high school in comparison to traditional high schools in rural communities. Since all of the administrators who participated in the study had experiences in working with students in both urban and rural communities it was important to obtain the perspectives that were shared among them. Three main categories and one subcategory emerged from the data which gave a general description about the administrators' perspectives. The three major categories are:

1. Teaching agricultural science courses in urban school is more challenging than rural school

2. Teacher's approach to using the agricultural science curriculum in urban school is different from rural school setting

3. Teacher focus more on Science, Technology, Engineering and Mathematics (STEM) related careers in urban school and focus more on production agriculture in rural school

In addition to the three major categories one subcategory emerged from the data which describes the administrator views about teaching agricultural science courses in urban versus rural school:

1. **Lack of technology and limited resources in urban charter school**

The administrators believed that it was more challenging to teaching agricultural science courses in urban school as opposed to rural school. They attributed such challenge to the nature of urban communities and the lack of agricultural awareness of urban students. They believed that rural students have stronger agricultural backgrounds and are more likely to have family members who are involved in the agricultural industry in one form or another. They noted that urban communities are more factory and industry driven while rural communities have strong agricultural based companies with large production type establishments. As such rural students are inherently immersed in agriculturally-related activities which are not naturally part of urban students' communities. Administrators argued that not only was it more challenging to teach agricultural science courses in urban schools but the approach to using the agricultural science curriculum was also different from rural schools. While the curriculum used in both rural and urban settings were the same, administrators noted that topic selection was

a key factor when teaching agricultural science in urban schools. They argued that topics selected for urban schools must be relevant to the agriculture that represented in urban communities so that students can make the connected to what they see on a day to day basis.

In addition to selecting relevant topics for urban schools administrators highlighted the importance of relevant career choices for urban students. Administrators emphasized the idea that urban students are not interested in production agriculture therefore, Science, Technology, Engineering and Mathematics (STEM) related careers were more attractive to their students. The administrators noted that although they introduced their students to all types of careers their focus was on STEM related careers which was part of the school's mission to develop students who are strong in science and technology. With the goal of developing students who are strong in science and technology the administrators were faced with the challenge of providing the necessary technologies and resources that were needed to fulfill that goal. The administrators stated that this urban school was faced with challenges relative to the lack of technology and limited resources which had a negative impact their education programs.

The guiding theory that underpinned this study was the Social Cognitive Career Theory (Lent, 2005). This theory helped to guide the interpretation of the results and contextualize those results specifically to the career development of the urban students that participated in the study. The results of this study identified several behavioral, personal, and environmental barriers and drivers (Bandura, 1986) that influenced urban students' career development. Some of the barriers identified in the study that negatively

influenced students' decisions to pursue higher education and careers in agriculturally-related fields include: lack of accurate information about viable majors and careers in agriculturally-related fields; existing stereotypes about higher education and careers in agriculturally-related fields; negative media portrayal of agricultural education and careers which negatively impact students outcome expectations of higher education and careers in agriculture; social context of urban communities relative to the number of factories and service industries as opposed to agricultural industries; and farms which are major characteristics of rural communities. These barriers were also highlighted by the administrators as well. For example, the administrators emphasized the challenges they faced in teaching agricultural science courses in an urban school as opposed to rural schools. They commented specifically about the challenge they faced in breaking urban students' stereotypes about higher education and careers in agriculturally-related fields. Additionally, they noted that it is often challenging to help urban students make the connection between what they are learning and the practical application to their urban communities due to the lack of agriculture awareness and agricultural industries in their areas.

On the other hand several drivers were identified that played a significant role in students' decisions to pursue higher education and careers in agriculturally-related fields as opposed to other optional fields. The drivers include: students' appreciation for the scientific nature of the agricultural science courses and their interrelationship with other general science courses; students and administrators emphasized the added benefits that were available to students to obtain dual credits as well as an associate degree upon

successful completion of their educational program. A key driver that has been found to be a recurring theme among students and administrators is the financial benefits that were associated with the infusion of agricultural science courses into urban school curricula. The administrators commented that the infusion of agricultural science courses into urban school curricula helped to bring in more funding for the educational programs while the students emphasized their ability to obtain college credits and an associated degree at no cost.

Career interest formation which is rooted in the Social Cognitive Career Theory (Lent, 2005) was the theoretical lens that the researcher used as the foundation for the data analysis and interpretation of the findings. Additionally, the mutual influence of behavioral, personal and environmental factors which are explained by Bandura's (1986) social cognitive theory were used to explain how the urban students that participated in this study were modeling a behavior that was influenced by their environment. These factors include stereotypes about higher education and careers in agriculturally-related fields. In addition, urban communities are comprised of predominantly factories, and service industries as compared to rural areas which are farm based. This was the environment in which the urban students formulated their educational and career interests and it was evident that those factors negatively impacted their interest in agriculturally-related fields. These environmental characteristics provided a model that helped to shape students' behavior and were evident in the students' responses about agriculture as a viable career path.

Although students thought the agricultural industry was important and had an interest in becoming agricultural literate, their responses showed that due to various environmental barriers they had prematurely foreclosed on their ability to pursue a career in agriculturally-related fields. This was influenced by their environment that portrayed higher education and careers in agriculture as not viable and provided unsatisfactory outcomes (e.g. jobs that were more production based; jobs that were viewed as not valuable or lucrative). Additionally, the proliferation of negative and inaccurate content about agriculturally-related careers in the electronic media (e.g. radio and TV) served as reinforcement for the students' behavior. Essentially, their outcome expectations of higher education and careers in agriculture were not valuable and ultimately served a major barrier to their career interest formation and development relative to agriculture.

Based on the responses from the administrators they were aware of how the media, urban communities, and other environmental factors influence their students' behavior and career interest formation. Hence, they highlighted how important it was for them to provide a classroom and school environment that reinforced positive outcome expectations of higher education and careers in agriculturally-related fields in order to expose students to the wide array of viable career options in agriculture. Positive reinforcements that were visible at the school included agricultural education posters, pictures, literature and other materials that were displayed in the agricultural education department at the school (see appendix D). Additionally, during observation the researcher saw the agriculture science teacher on many occasions guiding students through agriculturally-related careers on the FFA website. Students were also given

career journal projects that aimed to increase their knowledge about viable careers in agriculture.

Although multiple environmental barriers influenced students' outcome expectations, they were enthusiastic about the financial benefits that could be obtained from their agricultural education program which helped to stimulate students' interest. Such interest formation is supported by Lent (2005) who states that interest is likely to increase, and endure when people see themselves as self-efficacious and believe that they will obtain positive outcomes from a particular activity. Self-efficacy or students' beliefs about their ability to succeed in higher education and careers in agriculturally-related fields were not explored in this study. However, the benefits that they identified (free college credits, associate degree, funding for educational programs) could be viewed as indirect positive outcome expectations. Particularly, because of the emphasis that both students and administrators placed on their agricultural education program relative to the social capital (Bandura, 1986) they could obtain from the program. Unfortunately, they had negative outcome expectations relative to higher education and careers in agriculturally-related fields that were key components of this study.

Recommendations

From the results of the study the researcher deemed it necessary to make the following recommendations:

1. Similar to biology, chemistry and other science courses it is highly recommended that at least one agricultural science course be offered to urban high

school students whether or not they are interested in pursuing higher education and careers in agriculture and related fields.

2. Based on the results of the study it was evident that students associated agriculture science with basic farming practices which negatively impacted their interests in pursuing higher education and careers in agriculture and related fields. Therefore, educators should not assume that merely offering optional agricultural science courses is enough to get students interested, instead they should ensure that their students understand what agricultural science entails and develop teaching and learning strategies to help students make the connection between agriculture science and other science courses such as biology and chemistry.

3. In order to increase students' awareness and break urban students' stereotypes about higher education and careers in agriculture and related areas, higher education institutions that offer agricultural education programs should consistently collaborate with urban schools to develop their agricultural education programs. Such collaboration should go beyond agricultural science course development to providing faculty mentors from various agricultural departments. These faculty mentors can serve as role models for urban students and help them learn about the different careers and majors in colleges of agriculture.

4. The flexible structures of non-traditional high schools such as charter schools provide many opportunities for developing rigorous agricultural education programs in urban communities. Therefore, agricultural educators and higher education institutions should collaborate with charter schools to develop programs

and activities to market agricultural science courses in order to develop quality students that can succeed in higher education institutions.

5. In addition to state funding that is available for Career and Technical Education programs that can be used to support agricultural education programs in urban high schools, other sources of funding should be explored to provide consistent and sustainable funding sources for non-traditional high schools that are interested in developing Urban Agricultural Education programs. The development of sustainable funding sources for agricultural education programs can play a major role in increasing the number of Urban Agricultural Education programs particularly in non-traditional high schools such as charter schools which often face difficulties in financing their educational programs.

6. Based on the results of the study, media portrayal of higher education and careers in agriculture and related fields has a negative impact on urban students' perceptions about agriculture. Therefore, there is a need for the development of public awareness programs for urban communities, particularly through electronic media such as radio and TV. Although the students only identified the negative influence of radio and TV the researcher could speculate that such negative influence extends to social media, websites and other forms of electronic media. This has implications for the development of successful urban agricultural education programs hence, future studies should explore the impact of these and other forms of electronic media and how they may be used to positively influence

students perceptions and promote students enrollment into various agricultural majors and ultimately careers in agriculturally-related fields.

7. The results of the study showed that one of the main reasons why students chose to take agricultural science courses as opposed to other optional courses was based on the added benefits that they could obtain. Such benefits include the ability to obtain college credits and earn an associate degree while fulfilling the requirements for their high school diploma. Other benefits such as leadership skills development and college preparation should be explored in order to increase students' enrollment in Urban Agricultural Education programs.

8. Based on the review of the literature and the findings of this study there is a need for further studies to be conducted on Urban Agricultural Education programs outside of traditional high school setting such as charter schools. Such studies should investigate urban charter schools that have a more developed agricultural education program. This is important because the Urban Agricultural Education program at the charter school that this study investigated was not fully developed at the time when the data were collected.

Implications for Future Research

The study was conducted at an urban charter high school therefore, caution must be exercised when interpreting the results relative to other school settings different from the one that the study was conducted. With that said, the researcher also wanted to

emphasize that the results of this study have multiple implications in relation to the development of Urban Agricultural Education programs. The development of Urban Agricultural Education programs plays a critical role in increasing students' enrollment both at the high school and university levels. In an effort to increase enrollment, agricultural educators must be knowledgeable about the factors that motivate urban students to take agricultural science courses (Reis & Kahler, 1997). This study has identified several factors that impacted urban students' decisions to enroll in agricultural science courses. These factors include the college credits and associate degree components that are attached to advanced agricultural science courses; and the intensive scientific nature of agricultural science courses. These factors must be taken into consideration when developing agricultural education programs in urban communities.

Urban schools tend to have large population of students from diverse ethnic backgrounds which was also evident based on the results of this study which showed that 65% of the school population was made up of students from minority ethnic groups. The results of the study showed that urban students had mixed views about higher education and careers in agriculture. Urban students also had limited knowledge about agriculturally-related careers which negatively impacted their perceptions about higher education and careers in agriculture. This finding is supported by Pense et al. (2006) which showed that agricultural literacy was a problem among urban students. The results of this study also showed that urban students associated agricultural careers mainly to production type careers and although they highlighted the importance of agriculture to the nation they tend to have more negative perceptions about agriculture. Such a finding is

supported by Talbert and Larke (1995b) study which showed that students from minority ethnic groups had more negative views about agricultural careers and shared the belief that there were only few occupational opportunities in agriculture and those opportunities were mainly production based and did not necessarily need training or expertise.

In addition to students' limited knowledge about higher education and careers in agriculture which negatively impacted their perceptions about agriculture, the results of the study also showed that the media negative portrayal of agriculture also impacted urban students' perceptions about agriculture. This finding contradicts those of Smith and Park (2009) which showed that the media did not influence students' perceptions about agriculture or agriculturally-related careers.

Concluding Remarks

The mission of Fern Grove High School to develop students who were strong in science and technology made the school a great fit for the development of a successful Urban Agricultural Education program. Based on the researcher's experience during the time spent collecting the data and speaking with students and administrators it was clear that the school was aiming to have a well-established agricultural education program by the end of the spring semester 2012. Unfortunately the administrators' interests and effort to continue to develop their agricultural education program at Fern Grove High School was shattered because of the challenges that the school was facing; hence, the school had to close. The administrators and students were excited about establishing their FFA chapter; become more involved in SAE; establish their school garden; and increase the

number of advanced agricultural science courses. Unfortunately, they were not able to see these to fruition.

The researcher's recollections of the period spent at the urban charter high school that the data were collected were pleasant, particularly because of her educational background that is rooted in agricultural education from an early age. Each day she visited the school and conducted observations and interviews she reflected on how similar she was to those students when she was taking agricultural science classes in high school in her home country several years ago. Similarly, during that time she also struggled with some of the stereotypes about higher education and careers in agriculture that they faced, which she found to be interesting, being a native of another country. These stereotypes were also more pronounced in urban communities and schools in her home country. But despite those barriers the researcher believed that the enthusiasm that the students who participated in the study showed particularly as it relates to their appreciation for science based courses will transcend those stereotypes which may lead to increase curiosity about what the field of agriculture has to offer and ultimately increase the number of students who pursue higher education and careers in agriculture.

Finally, as an individual who strive to be an advocate for her field not only because she sees agriculture as a viable career path, but most importantly she believes that the agricultural industry is the backbone of our society. Human whole existence is dependent on the resources and products that are produced from this great field. While some people will dispute this claim, the researcher got similar feelings when was interviewing the administrators, they seem passionate about helping the students to

understand the importance of agricultural literacy and exposing them to the various areas of study and careers in agriculture. The administrators believed that all students should be exposed to agricultural majors and careers whether or not they were planning to pursue a career in agriculture in order that they can make informed decisions about their careers instead of prematurely foreclose on viable options.

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APPENDICES

Appendix A – Participants' Recruitment Letter

Date: _____

Youth Development and Agricultural Education
College of Agriculture
Purdue University
615 W. State St. AGAD 106
West Lafayette, IN 47907

Dear Sir/Madam:

My name is Kesha Henry and I am currently a Ph.D. student at Purdue University in the Colleges of Agriculture and Education. I am writing to express my interest in carrying out my dissertation research at your institution. After taking an in-depth look at various schools I have concluded that your institution fits well with the purpose of my study. The purpose of this research is to examine the model that is used in urban public school in the preparation of students for higher education and careers in agriculture. I would really appreciate if you would allow me to collaborate with your institution on this project. If allowed I am sure that this partnership will be a valuable, educational, and pleasant experience.

Please reply to me at henry4@purdue.edu or 765-494-8423 letting me know of your interest. Also, contact me with questions regarding my research. My major professor is Dr. Allen Talbert and his contact information is btalbert@purdue.edu or 765-494-8423.

Once I have received your positive response, I will be in further contact regarding the details of data collection. This research must be approved by the Purdue University Institutional Review Board for Human Subjects Research before I can begin data collection. I would like to begin initial work this fall, so your response within the next 30 days would be appreciated.

Thank you,

Kesha Henry

Appendix B – Thank you Letter to Participants

Dear Participant,

I want to use this opportunity to thank you for participating in my study and facilitating my visit to your school during the data collection process. I had a wonderful experience and learned a lot about your school and the various programs that you offer. My conversations with you during the interview were pleasant and very insightful. In addition, I appreciate the time you took out of your busy schedule to speak with me each day.

Again, a big thank you, it was a pleasure meeting and speaking to you!

Sincerely,

Kesha Henry

Appendix C –Participants' Interview Guide

Interview Questions for Students

Demographics:

1. What is your Name?
2. How old are you?
3. What year are you? (Freshman, sophomore etc.)
4. Where are you from?
5. What is your prospective academic major?
6. What is your ethnic background/race?
7. What is your gender?

1. **To what extent the curriculum used in urban schools reflect the various areas of study and careers in agriculture?**
    1. Name of Ag classes you have taken in the past/current classes?
    2. Do you have an Ag background? Do you like Ag classes/Ag careers? If yes/no why?
    3. What is your favorite class/ course/ subject/Ag class?
    4. How are the Ag classes offered, are they electives or compulsory courses?
    5. What are the different components of each course?(e.g. practical components/experiential learning/demonstrations whether in class or field activities, field trips etc)
    6. Where are some of the places that students visit for field trips, what do they do on those visits?
    7. Are students involved in FFA, 4-H and SAE activities? Explain/list
    8. Are students provided with information about higher education and careers in agriculture and related fields if so how?
    9. Are students involved in summer programs/summer camps and other programs and activities at agricultural institutions such as Purdue or other universities?
    10. Are you encouraged to pursue college education/careers in Agriculture?
    11. Any other information you want to share about this topic/your agricultural science program etc?

II. What are the socio-cultural factors that influence urban students' career choices?

1. Are you planning to attend college after you graduate if yes where, if no why?
2. If yes to question 1 what do you want to study?
3. What do you want to be when you grow up/ graduate from college?
4. Why do you choose to take agricultural science courses? (if electives)
5. What fields/careers are your parents in?
6. Give the four main people that are most influential on your educational and career decisions and why and how do they influence your decision? Rank in terms of 1st 2nd etc
7. Specifically what role does your mother/father/guardian play in those career decisions?
8. How does your home community/school community impact your career choice
9. How are agricultural courses and careers portrayed in your school?
10. How are agricultural courses and careers portrayed in your home?
11. How are agricultural courses and careers portrayed in your community?
12. What is your overall view about higher education and careers in agricultural?
13. If positive/negative why?
14. Tell me about some of the fields and careers in agriculture
15. Tell me about some of the government agencies (Federal and State) or private organizations that hire people who are trained in agriculture and related fields?/ What are of some of the occupations that individuals who pursue higher education in agriculture can apply for?
16. Do you believe that the agricultural industry is important to the growth and development of our nation? If yes/no in what ways?
17. How do you see agricultural careers portrayed in the media?
18. Any other information or thoughts you want to share about your agricultural education programs at your school?

Interview Questions for Teacher

Demographics:

1. What is your Name/Position at school?
2. How long have you been employed at this school?
3. Where are you from?
4. What is your educational background?
5. What is your ethnic background/race?
6. What is your gender?

I. To what extent the curriculum used in urban schools reflect the various areas of study and careers in agriculture?

1. How many years have you been teaching? What subjects do you teach?
2. How do you think your educational background and training impact your students' decision to pursue agriculturally-related careers/pursue further studies in Agriculture?
3. Do you encourage your students to pursue college education/careers in Agriculture?
4. What are the agriculturally-related courses taught at your school? List/give names/are they electives or compulsory?
5. What processes and procedures are used to recruit students for agricultural courses?
6. How long are students enrolled in each of these courses?
7. What are some of the areas of agriculture that you cover under these courses?
8. What careers are explored during your agricultural education/science courses and how are these careers depicted?
9. Is the connection between agriculture and other industries/fields/disciplines emphasized in your agricultural class, if yes how/to what extent?
10. Are field trips, career days, guest speakers and other activities included as part of the course, if yes describe those activities?
11. What are some of the challenges that you face in teaching your students about agriculture as a career choice.
12. What are your views about teaching Ag in an urban Charter school in comparison to rural public school?
13. Do you do FFA and other agricultural components of the curriculum any different within this urban charter school setting in comparison to rural settings?
14. Is the curriculum used in rural public schools same as the one you are using in this urban charter school? How do you apply the same curriculum differently in this urban charter school setting with diverse student populations?
15. List some of the resources that you believe would help to stimulate the interest of other students in pursuing higher education and careers in agriculturally-related fields.
16. What are some of the strategies that you have used to help students understand the benefits of pursuing higher education and careers in agriculturally-related fields?
17. What are the different components of each course?(e.g. practical components/experiential learning/demonstrations whether in class or field activities, field trips etc)

18. What are some of the places that students visit for field trips, what do they do on those visits?
19. Are students involved in FFA, 4-H and SAE activities? Explain/list/Tell me about the enrichment programs on Fridays
20. Are students provided with information about higher education and careers in agriculture and related fields if so how?
21. Are students involved in summer programs/summer camps and other programs and activities at agricultural institutions such as Purdue or other universities?
22. Are students provided with mentors or agricultural professionals for discussions about the vast array of careers and fields of study in agriculture if yes who, how?
23. Any other information you to share about this topic/your agricultural science program etc?

II. What are the socio-cultural factors that influence urban students' career choices?

1. What are some of the socio-cultural factors that influence urban students' career choices? (Parents, teacher community, school, media etc)
2. Any other information or thoughts you want to share about your agricultural education programs at your school?

Interview Questions for Administrators

Demographics:

1. What is your Name/Position at school?
2. How long have you been employed at this school?
3. Where are you from?
4. Do you have an Ag background? If not what field?
5. Give me an overview of your educational and career experience?
6. What is your ethnic background/race?
7. What is your gender?

I. To what extent the curriculum used in urban schools reflect the various areas of study and careers in agriculture?

1. Give me an overview/ history of your Ag program at this school, how did it start?
2. How did you become involved with this school?
3. What are your overall perspectives about secondary education, higher education and careers in agriculture?
4. Do you believe that agriculture is an important area for students to understand and why?
5. What processes and procedures are used to recruit students for agricultural science courses?
6. Where does funding for Ag programs come from? e.g funds to build greenhouse etc.
7. What is the ethnic background of the student and teacher populations?
8. Do you access/take advantage of fund from the Additional People Count (extra money for CTE students provided by the state)?
9. Reference to our 1st conversation you mentioned that you require all students at this school to take Ag why, is this your vision or a mandated vision by the school or other leaders of the school etc.?
10 Do you have to justify this vision to students and parents? If yes how do you do that?
11. Does the students resist taking Ag classes or do they see it as valuable to learn about it?
12. Names of Ag courses taught at this school/How long are students enrolled in each of these courses?
13. What are some of the challenges that you face in teaching your students about agriculture as a career choice. (urban students in comparison to rural students)
14. List some of the resources that you believe would help to stimulate the interest of other students in pursuing higher education and careers in agriculturally-related fields.
15. What are some of the strategies that you have used to help students understand the benefits of pursuing higher education and careers in agriculturally-related fields?
16. Do you have any data on Ag students who have graduated and move on to higher education and careers in Ag or related field?
17. Any other information or thoughts you want to share about your agricultural education programs at your school?

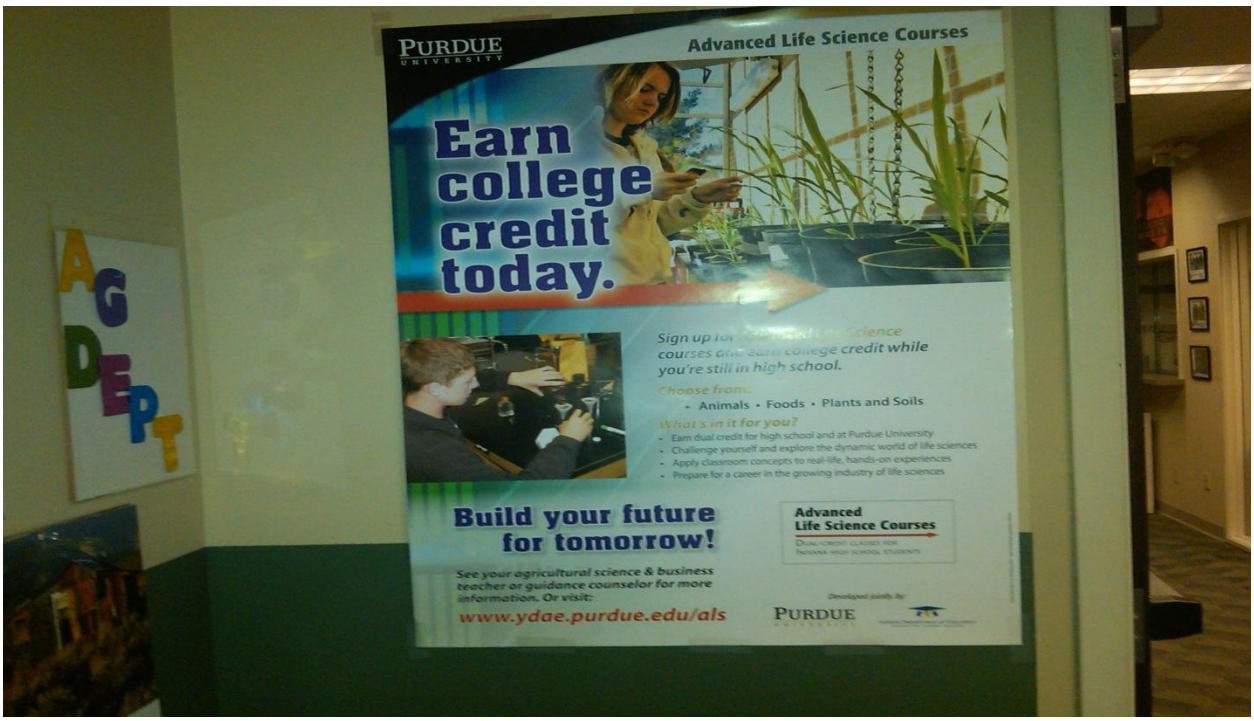
II. What are the socio-cultural factors that influence urban students' career choices?

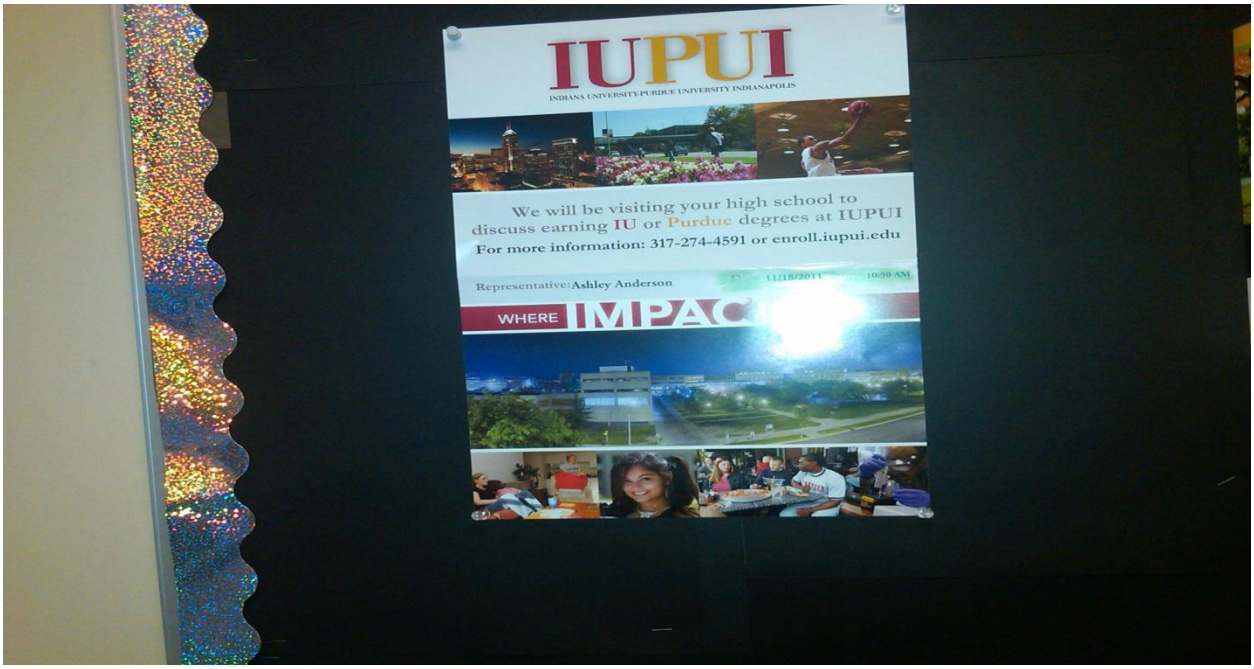
1. What are some of the socio-cultural factors that influence urban students' career choices? (Parents, teacher community, school media etc)

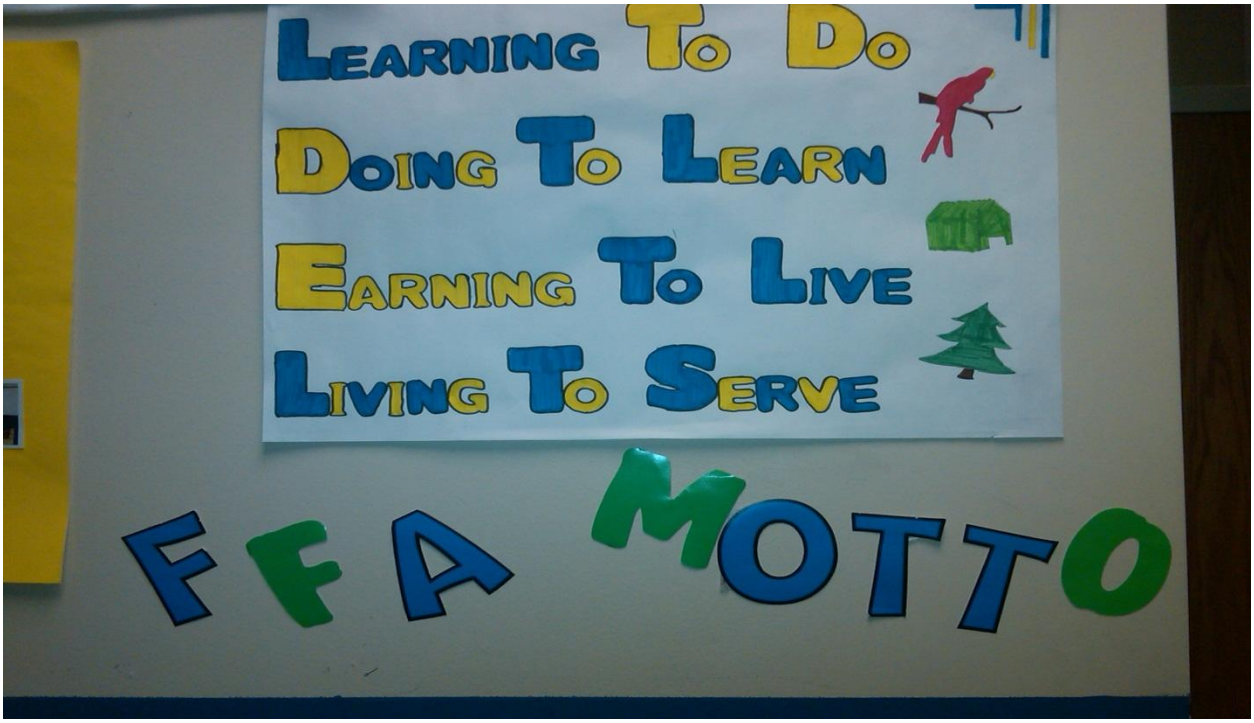
2. Any other information or thoughts you want to share about your agricultural education programs at your school?

Appendix D – Document Data: Pictures Collected from Research Site

Agricultural Education Department at Research Site

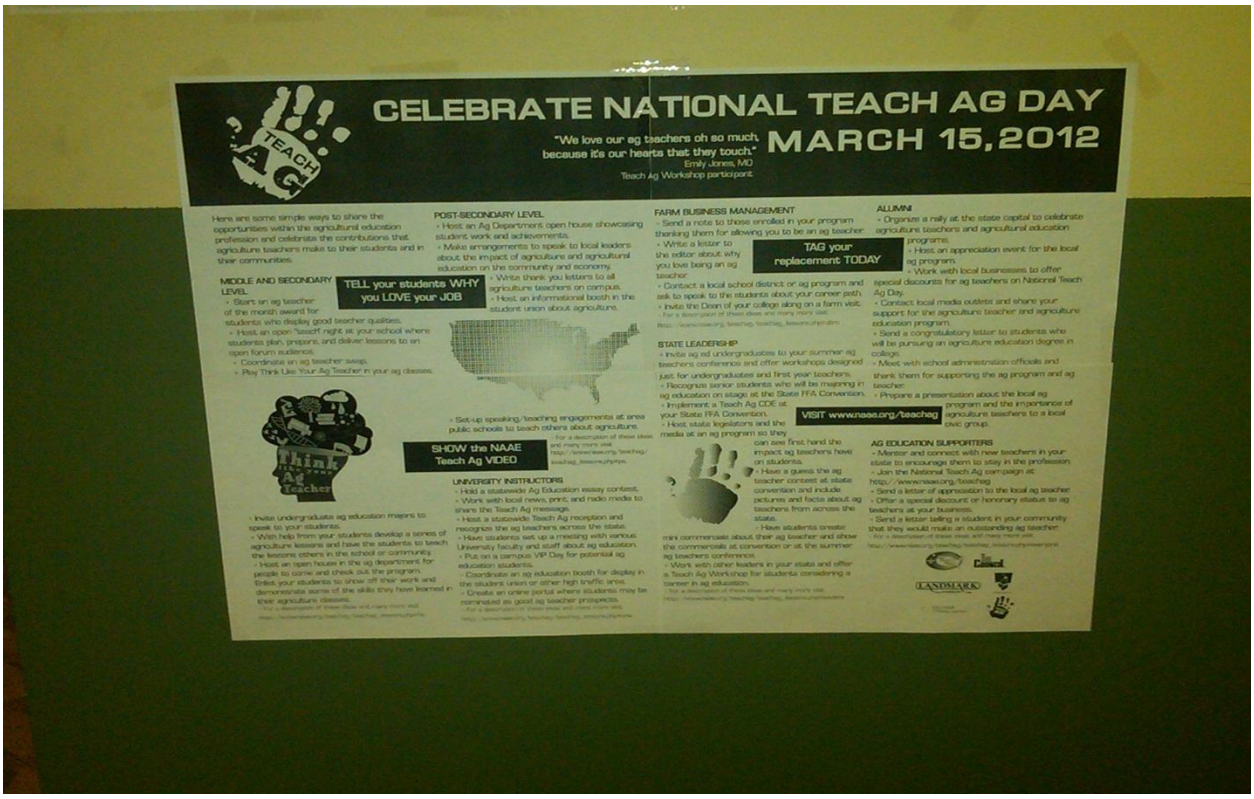





LEARNING TO DO
DOING TO LEARN
EARNING TO LIVE
LIVING TO SERVE
FFA MOTTO

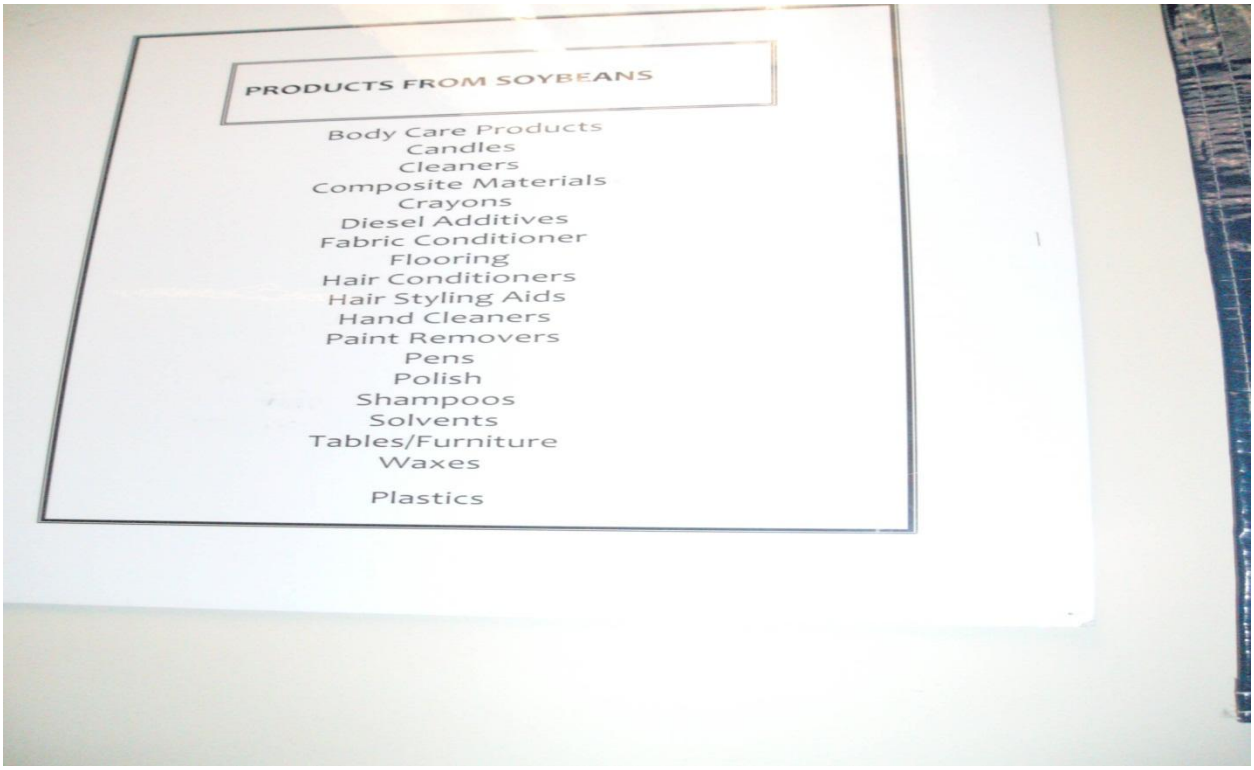

WHY SHOULD YOU JOIN THE FFA?

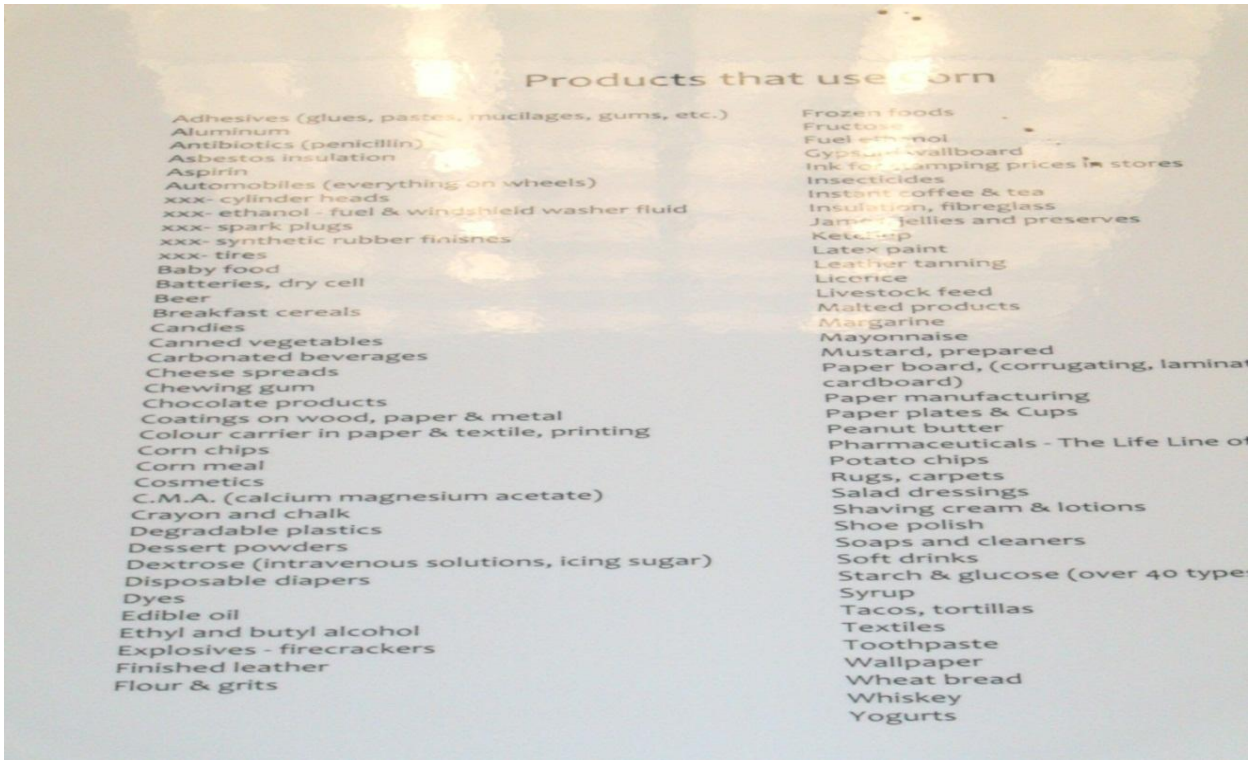
INDIANA FFA ASSOCIATION OFFICER, TYLER TENBARGE, DELIGHTED THE ACADEMY WITH HIS PRESENTATION ON LEADERSHIP. TYLER'S PRESENTATION EMPHASIZING TEAM WORK AND COOPERATION KEPT THE STUDENTS ON THEIR TOES.




BE THE POWER BEHIND THE PROGRAM. BE AN AGRICULTURE TEACHER.
Agricultural educators teach hands-on skills, incorporating science, math, leadership and more.
It's a challenging, rewarding career for passionate people who want to make a different in the lives of students and in the world around them.
Are you ready to be the power?
NATIONAL TEACH AG DAY MARCH 15, 2012
www.naae.org/teachag


Beef
Watermelon
Corn
Sheep
INDIANA
Popcorn
Watermelon
Pork
Soybeans
Canola
AGRIBUSINESS
Wheat
Fruits
Fish

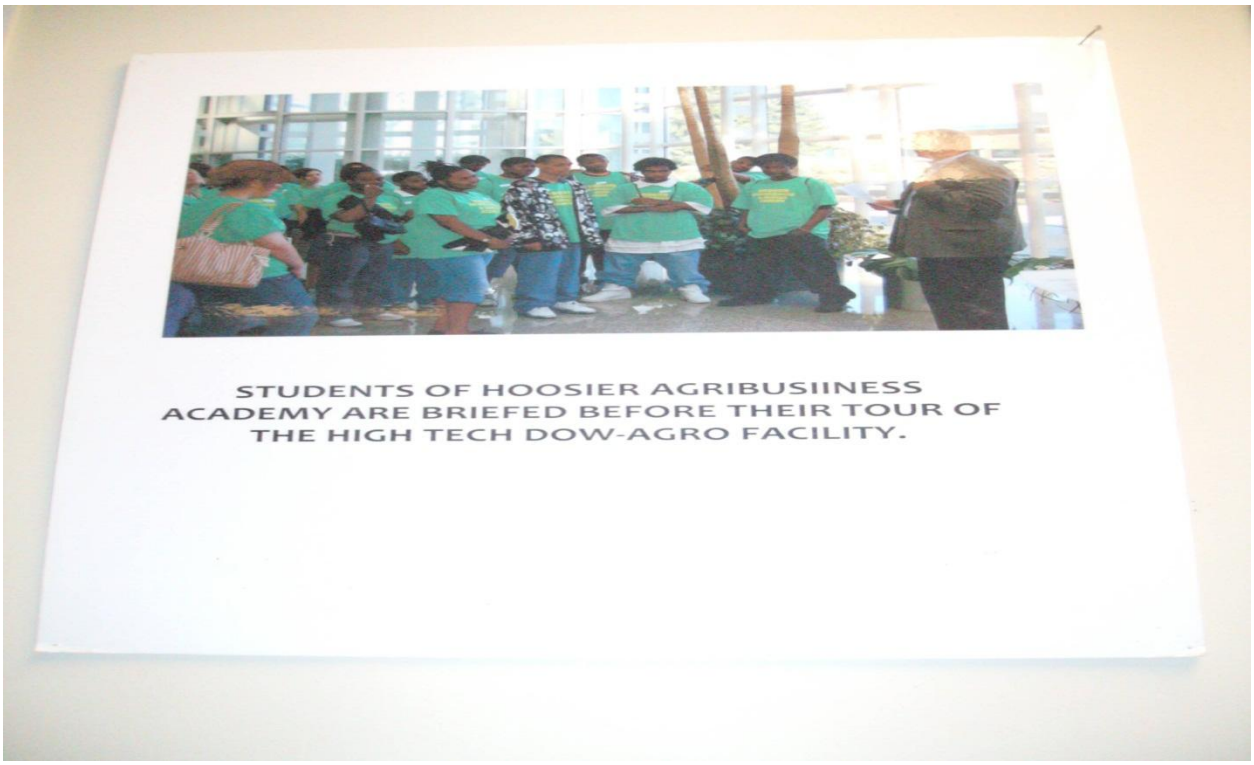

PRODUCTS FROM SOYBEANS
Body Care Products
Candles
Cleaners
Composite Materials
Crayons
Diesel Additives
Fabric Conditioner
Flooring
Hair Conditioners
Hair Styling Aids
Hand Cleaners
Paint Removers
Pens
Polish
Shampoos
Solvents
Tables/Furniture
Waxes
Plastics


Products that use corn
Adhesives (glues, pastes, mucilages, gums, etc.)
Aluminum
Antibiotics (penicillin)
Asbestos insulation
Aspirin
Automobiles (everything on wheels)
xxx- cylinder heads
xxx- ethanol - fuel & windshield washer fluid
xxx- spark plugs
xxx- synthetic rubber finishes
xxx- tires
Baby food
Batteries, dry cell
Beer
Breakfast cereals
Candies
Canned vegetables
Carbonated beverages
Cheese spreads
Chewing gum
Chocolate products
Coatings on wood, paper & metal
Colour carrier in paper & textile, printing
Corn chips
Corn meal
Cosmetics
C.M.A. (calcium magnesium acetate)
Crayon and chalk
Degradable plastics
Dessert powders
Dextrose (intravenous solutions, icing sugar)
Disposable diapers
Dyes
Edible oil
Ethyl and butyl alcohol
Explosives - firecrackers
Finished leather
Flour & grits
Frozen foods
Fructose
Fuel ethanol
Gypsum wallboard
Ink for stamping prices in stores
Insecticides
Instant coffee & tea
Insulation, fibreglass
Jams, jellies and preserves
Ketchup
Latex paint
Leather tanning
Licorice
Livestock feed
Malted products
Margarine
Mayonnaise
Mustard, prepared
Paper board, (corrugating, laminat
cardboard)
Paper manufacturing
Paper plates & Cups
Peanut butter
Pharmaceuticals - The Life Line of
Potato chips
Rugs, carpets
Salad dressings
Shaving cream & lotions
Shoe polish
Soaps and cleaners
Soft drinks
Starch & glucose (over 40 types
Syrup
Tacos, tortillas
Textiles
Toothpaste
Wallpaper
Wheat bread
Whiskey
Yogurts

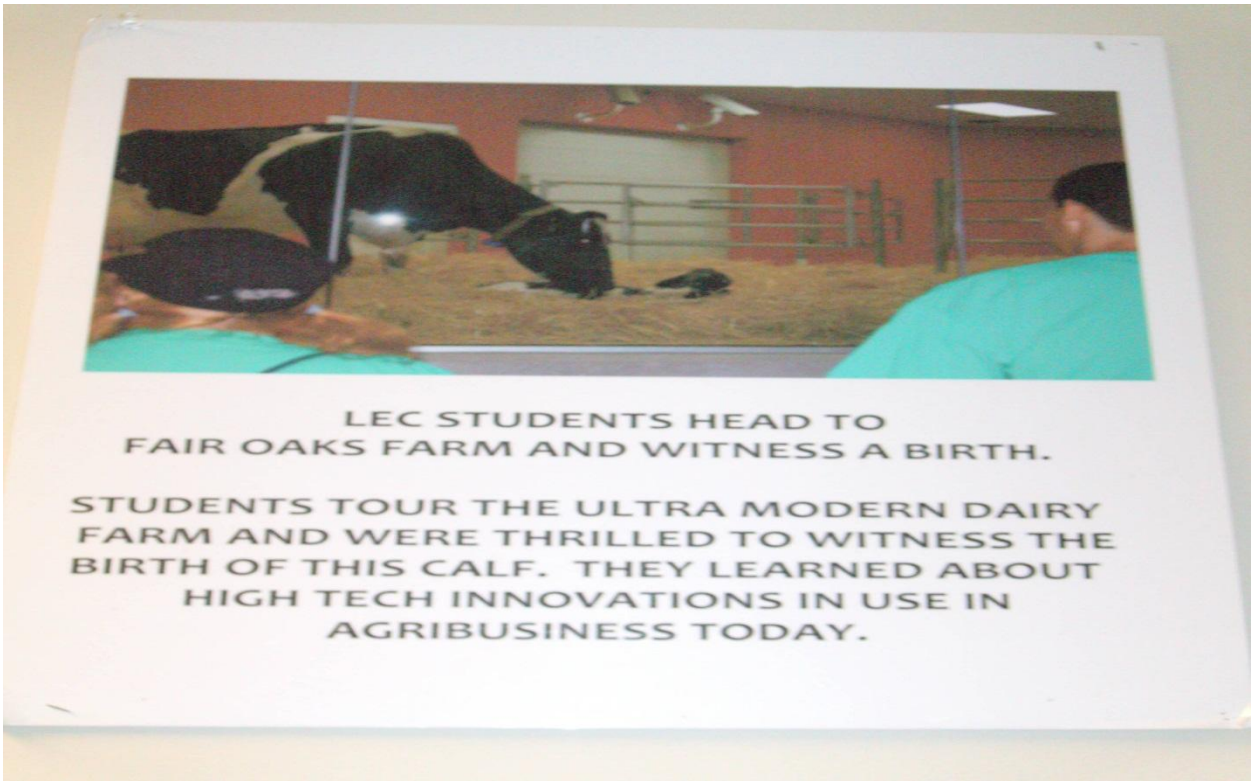

IVY TECH
COMMUNITY COLLEGE


SOUTHERN INDIANA
USI
CONCORD UNIVERSITY
MICHIGAN STATE UNIVERSITY
PURDUE

LIEUTENANT GOVERNOR BECKY SKILLMAN SPONSORS HOOSIER AGRIBUSINESS ACADEMY.
STUDENTS FROM BOTH LAWRENCE EARLY COLLEGE HIGH SCHOOL AND THE STAR ACADEMY ARE EXCITED AS LT. GOVERNOR BECKY SKILLMAN ANNOUNCES THE FORMATION OF THE HOOSIER AGRIBUSINESS ACADEMY.
IVY TECH IS A KEY PARTNER IN THIS INITIATIVE, WHICH EXPOSES URBAN STUDENTS TO THE IMPORTANCE OF AGRIBUSINESS IN INDIANA AND THE MANY CAREER AND EDUCATIONAL OPPORTUNITIES AVAILABLE TO THEM.



STUDENTS OF HOOSIER AGRIBUSIINESS ACADEMY ARE BRIEFED BEFORE THEIR TOUR OF THE HIGH TECH DOW-AGRO FACILITY.

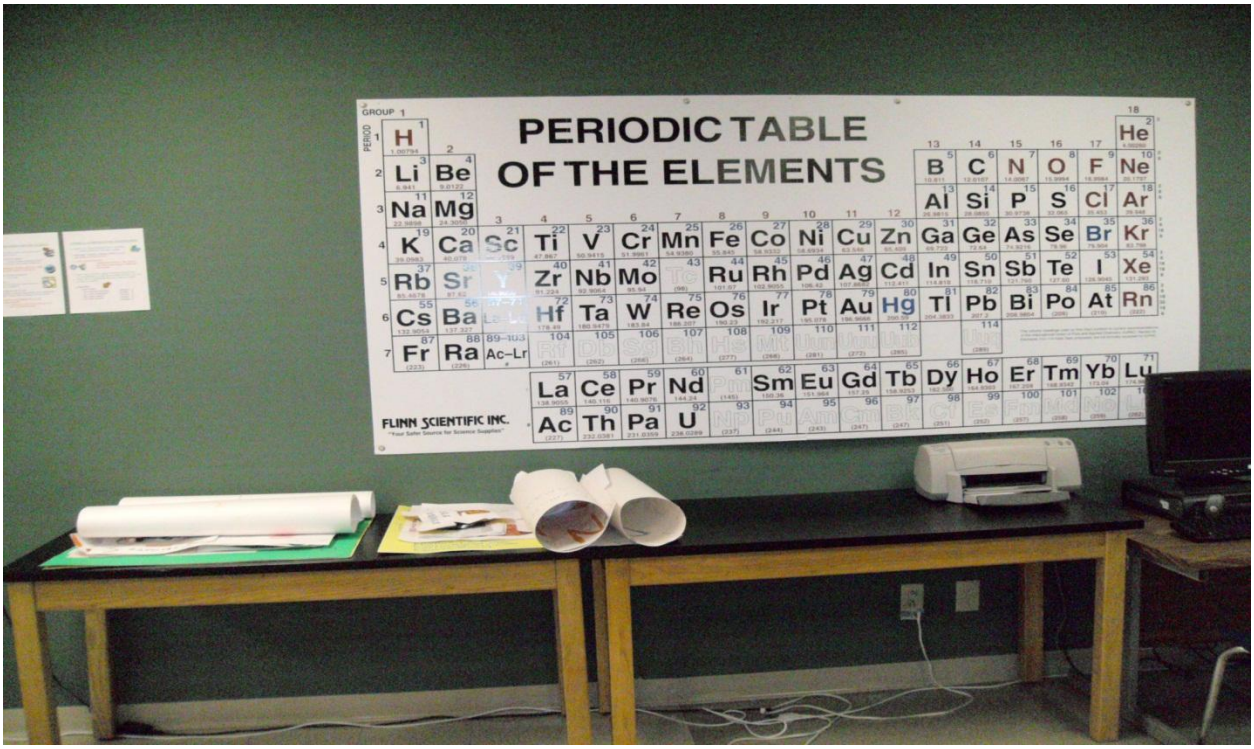


LEC STUDENTS HEAD TO FAIR OAKS FARM AND WITNESS A BIRTH.

STUDENTS TOUR THE ULTRA MODERN DAIRY FARM AND WERE THRILLED TO WITNESS THE BIRTH OF THIS CALF. THEY LEARNED ABOUT HIGH TECH INNOVATIONS IN USE IN AGRIBUSINESS TODAY.

Agricultural Science Classroom

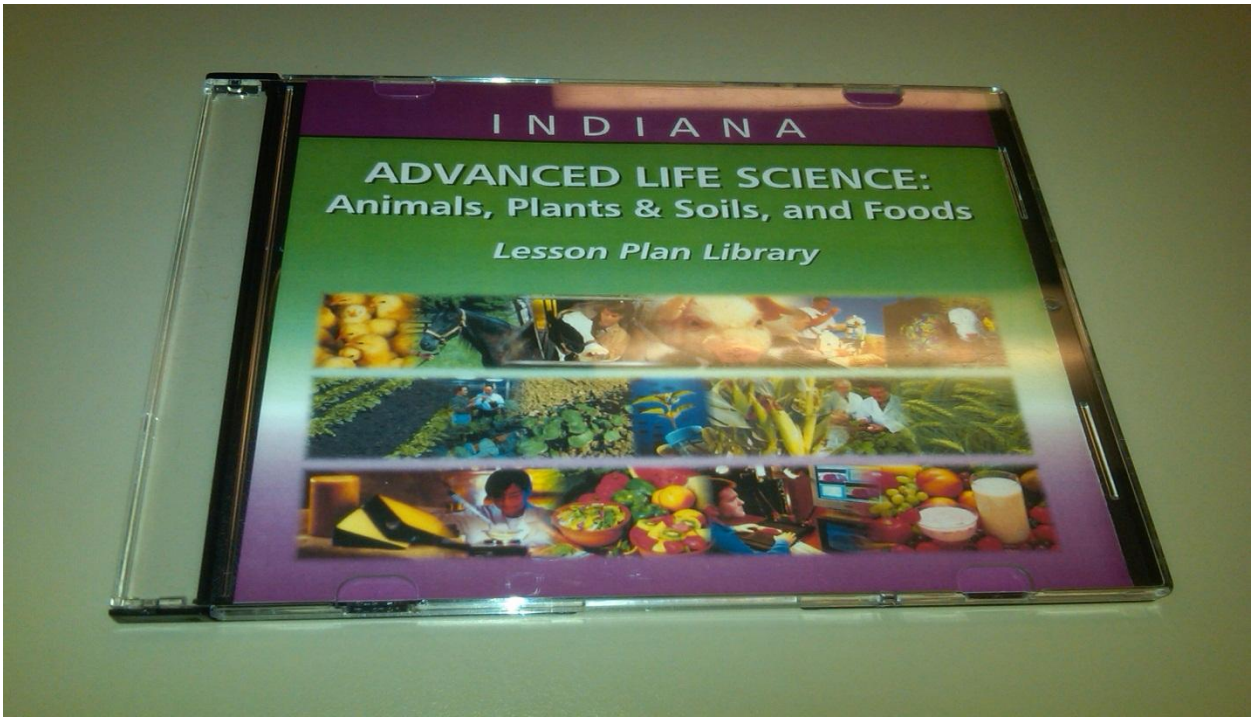

MICROSCOPE


PERIODIC TABLE
OF THE ELEMENTS
FLINN SCIENTIFIC INC.


BIOLOGICAL SCIENCE
AND AGRICULTURE
BOTANY


BOTANY
Plant Biology


OLOGY
Biology
ANATOMY COLORING BOOK
Human Body
Plants
Trees
Human Body
DICTIONARY
THESAURUS
The Life Cycle of Butterflies
Plant Growth and Development
GARDENING
HANDY GARDENING


INDIANA
ADVANCED LIFE SCIENCE:
Animals, Plants & Soils, and Foods
Lesson Plan Library

VITA

VITA

KESHA A. HENRY

EDUCATION

2009- 2012	**Ph.D. in Curriculum and Instruction** Purdue University, West Lafayette, IN August 2012 **Speciality Area**: Agricultural & Extension Education **Minor**: Communication **Dissertation**: Preparing students for higher education and careers in agriculture and related fields: An ethnography of an urban charter school
2007- 2008	**M.S. in Agricultural Education** North Carolina A & T State University, Greensboro, NC May, 2008 **Thesis**: An analysis of the effects of reduction in funding for extension programming and services upon Jamaica's agriculture
2002- 2004	**B.Tech. in Environmental Science** College of Agriculture Science and Education Port Antonio, Portland, Jamaica West Indies & Nova Scotia Agricultural College, Canada December, 2004 Speciality Areas: Environmental Management & Protection
1997- 2000	**A.S. in Agricultural Science** College of Agriculture Science and Education Port Antonio, Portland, Jamaica West Indies November 2000

PROFESSIONAL EXPERIENCE

2010 — Graduate Research Assistant, Discovery Learning Research Center, Purdue University West Lafayette, IN
June -September 2010

- Worked on qualitative and quantitative assessment research projects
- Assisted in preparing research manuscripts and evaluation reports.

2009- present — Graduate Research Assistant, Office of Multicultural Programs, College of Agriculture, Purdue University, West Lafayette, IN

- Evaluation Chair and co-leader for eXtension Diversity, Equity and Inclusion Community of Practice
- Communications/Marketing Liaison for eXtension Diversity, Equity and Inclusion Community of Practice
- Assist with the Community of Practice Wiki/Drupal Website and carry out leadership and administrative duties pertaining to the national eXtension initiative Diversity, Equity and Inclusion
- Assist in carrying out research and program assessment, development of content and publish research based information to the website
- Collaborate with section editors, plan and schedule monthly meetings
- Communicate with members and leaders about issues that are relevant to eXtension Diversity Equity and Inclusion Community of Practice
- Assisted with the coordination and supervision of Ag. Summer Camp (Summer 2009)
- Served as a substitute Teaching Assistant for diversity undergraduate course AGR 201 -Communicating Across Cultures
- Assisting in the development of online Diversity course for eXtension Diversity Equity and Inclusion Community of Practice

2009 — Graduate Teaching Assistant, Department of Educational Studies Purdue University, West Lafayette, IN May 2009

- Assisted in planning and coordination field placements, field experience, and orientation sessions for pre-service teachers
- Supervise undergraduate pre-service teachers at several public schools in Lafayette and West Lafayette area
- Teach recitation sessions: Educational Psychology/Learning and Motivation
- Administer and grade students' activities and assignments

2007- 2008 — Graduate Research Assistant, Department of Natural Resources & Environmental Design, North Carolina A&T State University, Greensboro, NC May 2008

- Data collection and analysis
- Assisted with laboratory and field research
- Assisted professor with teaching classes, grading papers and setting up student schedule

2007- 2008 — Graduate Research Assistant, Institute for Advance Journalism Studies, North Carolina A & T State University Greensboro, NC May 2008

- Assisted with administrative activities
- Data collection and analysis
- Assisted in conducting research
- Assisted in program planning
- Assisted with undergraduate Journalism student classes

2001- 2006 — Lab Technician, Ministry of Agriculture, Kingston, Jamaica West Indies, November 2006

- Performed daily laboratory duties including identification of samples and use of microscope
- Integrated Pest Management/Sterile Insect Techniques
- Assisted with laboratory and field research
- Maintained sample collection database in Microsoft Excel
- Prepared research project monthly reports

2000 Agricultural Science Teacher, Ebony Park Heart Academy, Clarendon, Jamaica West Indies July-September 2000
- Assisted teachers in teaching science classes
- Taught students to do practical demonstration

SERVICE

2010-2011 Guest Speaker, on *Extension System in Jamaica.* Department of Youth Development & Agricultural Education, Purdue University, West Lafayette, IN. Dr. B. Allen Talbert YDAE 565 Principles of Adult Education class. Spring 2010, 2011 & 2012

2010 Served as Reviewer for the American Association for Agricultural Education (AAAE) conference proposals January 2010

2010 Served as Facilitator for the American Association for Agricultural Education (AAAE) conference paper presentation May 2010

GRANTS

2010 eXtension National Community of Practice Leadership Grant (2010-2012). Agency: Purdue University, Cooperative Extension. Amount $15,000/year for 3 years. Morris, P. & Henry, K.

2010 eXtension National Community of Practice Military Families Grant (2010). Agency: Purdue University, Cooperative Extension. Amount $120,000. Morris, P., Henry, K., Hand, K., & Middleton, J.

PUBLICATIONS

Henry, K. A., Morris, P. V., Middleton, J., & Jordan, J. (in preparation). eXtension Diversity, Equity and Inclusion Community of Practice: Who are we*? Journal of Extension.*

Henry, K. A., & Alston, A. J. (in preparation). An analysis of the effects of reduction in funding for extension programming and services upon Jamaica's agriculture. *Journal of Agricultural Education.*

Morris, P. V., & Henry, K. A. (2010). Communication in Virtual Communities. Proceedings of the 2010 Fourth Global Communication Forum, The Global Communication Research Institute of Shanghai Jiaotong University, Shanghai, China.

CONFERENCE PRESENTATIONS

Hand, K., Henry, K., Morris, P., & Middleton, J. (2010, June). Beyond text - Easy multi-media content creation tools. Paper presented at Annual Meeting of eXtension National Community of Practice, Austin, Texas.

Hand, K., Henry, K., Morris, P., & Middleton, J. (2011, February). Using technology to catch their eye - Keep them engaged. Paper presented at Tri-State Diversity Conference, Hebron, Kentucky.

Henry, K., Morris, P., Middleton, J., & Hand, K. (2011, November). Easy multi-media content creation tools to engage your audience. Paper presented at the National Association for Multicultural Education Conference, Chicago, Illinois.

Henry, K., Morris, P., Middleton, J., & Hand, K. (2012, February). Multimedia content creation tools to engage your audience: Beyond introduction to interaction. Paper presented at the Tri-State Diversity Conference, Hebron, Kentucky.

Henry, K., Morris, P., & Talbert, B. A. (2012, January). Models used by urban public high schools in preparing students for higher education and careers in agriculture and related fields. Paper presented at the Hawaii International Conference on Education, Honolulu, Hawaii.

Morris, P., & Henry, K. (2012, January). Struggles and opportunities when teaching diversity-oriented courses in agriculture. Paper presented at the Hawaii International Conference on Education, Honolulu, Hawaii.

Morris, P., Henry, K., Middleton, J., & Hand, K. (2010, September). Communication in virtual communities. Paper presented at the Fourth Global Communication Forum, Shanghai Jiao Tong University, China.

AFFILIATIONS

2010-present	American Association for Agricultural Education (AAAE)
2010	Parliamentarian: Purdue International Student Organization
2010-present	Convocations Voice Network: Purdue's Student Ushering Organization
2010-present	Graduate Advisor: Minorities in Agriculture Natural Resources and Related Sciences (MANRRS)
2005-present	Jamaica Environmental Trust (JET)
2005-present	Jamaica Agricultural Society (JAS)
2007-2008	Founder and Past President of the Jamaican/Caribbean Aggie Club (A Caribbean student organization at North Carolina A&T State University)
2008-present	School of Agriculture and Environmental Sciences (SAES) Alumni Society, North Carolina A & T State University, Greensboro, NC
2007-2008	Collegiate FFA
2010-2011	Community Service Chair: Purdue University Black Graduate Association

AWARDS

2010	Multicultural Media Award – National Association for Multicultural Education
2008	Certificate of Recognition for Outstanding Academic Achievement, North Carolina A&T State University
2007-2008	Chancellor Scholarship: North Carolina A&T State University
2000	Certificate of Achievement in Food System in the Tropics, College of Agriculture Science and Education and Nova Scotia Agricultural College, Canada

REFERENCES

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