TEACHING VALUES IN AGRICULTURAL EDUCATION

by

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CHAPTER I

INTRODUCTION

Background and Setting

From the early 20th century to the present, heavy emphasis has been placed on the moral aspects of teaching (Kimball, 1991). Chang (1994) and Clark (1991) are among many who see the school as the most relevant change agent in the battle for improved morality in the United States. Chang notes that the school is more than just a building; rather it is a body of learners and educators that is set in an environment of inquiry and development. She emphasizes the influence teachers have on the moral development of students is tremendous, and the “importance of ethics in teaching cannot be overstated” (p. 71). Clark states that “to educate is to lead responsibly by influencing students’ knowledge, skills and dispositions in ways that will serve them and their society well and to do so in morally defensible ways” (pp. 257-258).

Strike (1990) and Strike and Soltis (1986) also see the school as an important component of moral development. They claim that moral decision making in the educational process is a daily occurrence for teachers. Rudolph and Coffey (1995) state that character is largely

shaped and set for the rest of life during the time in which one is enrolled in school. Thomas (1990) states that teaching involves a great deal of moral decision making. He notes teachers routinely face the need to make moral decisions or choices because they spend a great deal of time with students each day.

In order for teachers to make morally sound decisions and perform ethically in the workplace, ethical codes of teaching and/or teacher training programs are needed (Chang, 1994). Ethical codes are not enough, however. Chang (1994) and Strike (1990) both note that teaching codes seem to have limitations when applied to complex and ambiguous situations. Teacher training programs offer courses in philosophy and ethics, expecting these courses to build a sound knowledge base to lead teachers to exhibit an ethical performance. Unfortunately, teachers have difficulty applying abstract theories to concrete realities they face in the day-to-day classroom. Strike (1990) claims that teacher training programs appear to do little in the preparation of teachers' perceptions regarding the moral issues that arise in practice. Chang (1994) agrees by saying that teachers are not prepared for decision making situations where they are expected to exercise moral judgment skills.

According to Nussel (1994), almost all societal problems can be reduced to the failure to do something, and people make mistakes as a result of inaccurate information or a lack of information. For example, if people are not healthy, the schools should teach nutrition and dietetics; if people mismanage their money, the schools should teach economic education. This list is virtually endless—everything from racial injustice to poor reading skills can be directed towards unsatisfactory educational practices. Since the school transmits knowledge, skills and values regarded as critical within the society, it can be held accountable when problems arise (Nussel, 1994).

Educators have realized for some time that what a student accomplishes depends upon his/her attitude, philosophy and value judgments. Educators must recognize that students will have a value system and that it is part of the learning process to help students develop and utilize their individual system (Pullias & Lockhart, 1963). According to the Handbook on Agricultural Education in Public Schools (Phipps & Osborne, 1988), teachers of agriculture must possess unquestionable character as it is essential to be a successful teacher. Phipps and Osborne (1988) state that this is a necessity because many students will try to emulate their agricultural instructors and consequently what teachers do

must be of the highest standard. Above all, teachers must remember that their primary role in the public schools is to nurture and contribute to the educational, social, and personal development of people. Agriscience teachers must be able to demonstrate a sincere interest in the needs and accomplishments of each student. They continue by saying that even the most difficult students will respond if provided with encouragement and have a teacher who will strive to build positive self-concepts in students Phipps and Osborne (1988) conclude their comments about value characteristics of agricultural education teachers by saying:

Teachers must have distinctive and individual character indicative of forceful personality. They must know how to meet people and carry on a conversation. Often agricultural instructors fail simply because of the inability to meet people and to adapt themselves to their environments. A teacher with a pleasing personality can do a great deal in developing a good community attitude toward the program in agriculture. (p. 133)

Agriculture is not immune to critical evaluation by society.

Professionals and pre-professionals in agriculture need to continuously analyze the intent and impact of their individual and collective decisions. Therefore, it is appropriate for agricultural educators to guide reasonable and thoughtful conversations about the principles and judgments that create and impact the human condition (Field, 1995).

Great strides are being made in incorporating moral education into the whole school environment, including the agricultural education curriculum. However, the instruction of moral education is not clearly defined in the current American educational system. Recent studies by Irwin (1988), Cheek and Parker (1994), and Cangemi and Aucoin (1992) reviewed methods of teaching values in the classroom. While the studies agreed that value education should be part of the formal curriculum, they did not agree on the best method of delivery. Cheek and Parker (1994) indicated that a combination of two methods which they referred to as implicit and explicit should be used to teach values.

The implicit method, often referred to as the hidden curriculum, has been the traditional method of instruction. The hidden curriculum was used as an important part of moral education as the everyday behavior of faculty, staff and other students impacted the character and moral development of students. The simplest method of implicit instruction is becoming a role model to students by creating an environment that fosters the moral development of tomorrow's leaders (Cheek & Parker, 1994).

Cheek and Parker (1994) refer to the explicit method of teaching values as being the formal teaching of values in a classroom situation. It

often involves case studies, role playing, simulations and other teaching strategies which aid students in making moral decisions.

Statement of the Problem

Despite widespread agreement about the need for teaching morals and values in the school system, there is controversy concerning what morals and values should be taught. There is almost no empirical research which identifies universal morals and values.

Since its beginning, agricultural education has been considered a program which emphasizes the moral, character, and value development in young people. Its four instructional components—classroom instruction, laboratory instruction, supervised agricultural experience, and the FFA organization—have been considered as vehicles to enhance character development in students.

No major study has been conducted which identifies the values that should be taught in agricultural education or in which instructional component of the agricultural education curriculum should be utilized for effective character development. Although there is general agreement on the need for teaching values, there is no consensus on the values to be taught. The literature also emphasizes the importance of identifying what

values agricultural educators deem as important. The problem of this study was a lack of guidance in designing curriculum to help teach values and morals in the area of secondary agricultural education.

Purpose of the Study

The major purposes of this study were to: (1) determine perceptions of agricultural education teachers nationwide as to what values should be taught to students enrolled in high school agriscience courses; (2) identify in which component of the agricultural education program should these values be taught; and (3) identify if differences exist in perceptions of the teachers according to selected demographic variables and teacher behavior.

Questions to Frame the Study

As a means of accomplishing the purpose of the study, answers to the following questions were sought:

1. What are the characteristics of agriscience teachers in the United States in regard to the following variables: (a) number of years teaching; (b) number of years teaching high school agriculture; (c) the number of teachers teaching agricultural

courses at their school; (d) gender; (e) age; (f) ethnicity; (g) location of school; (h) number of students attending their high school; (i) number of students enrolled in agriculture courses; (j) percentage of students participating in FFA; (k) percentage of students participating in Supervised Agricultural Experience (SAE) program; and (l) self-perceived religious level?

- 2. What are agricultural education teachers' perceptions as to values that should be taught in a high school agriscience program?**
- 3. In which of the four components of an agriscience program (classroom, laboratory, supervised agriculture experience program, or FFA) do agricultural education teachers perceive these values should be taught?**
- 4. What is the relationship between the characteristics identified in question one and the perceptions of teachers as to what values should be taught in the agricultural education curriculum?**
- 5. Is there a relationship between teacher behavior and the values they think should be taught to students?**

Definition of Terms

For the purpose of this study, the following terms were defined as follows:

Agricultural Education. Also referred to “agriscience” and “vocational agriculture.” Systematic instruction in agriculture at the elementary, secondary, postsecondary, or adult level for the purpose of preparing persons for initial entry or reentry into occupations in agriculture and which meet state and federal requirements as part of a career and technology instructional program (Phipps and Osborne, 1988).

Caring. To feel interest or concern; a sense of responsibility (Unell & Wyckoff, 1995).

Commitment. Obligating oneself to a cause.

Cooperation. To act or work with others; to associate with others for mutual benefit (Unell & Wyckoff, 1995).

Courtesy. Excellence of manners or social conduct; polite behavior (Unell & Wyckoff, 1995).

Diligence. Ability to see projects and activities to completion.

Ethics. A set of moral principles or values (Dormody & Torres, 1995).

Freedom. Quality or state of being free to choose and act.

Friendship. Ability to sustain the state of being friends with others.

Generosity. To be giving of oneself.

Honesty. Truthful; trustworthy; sincere or genuine; frank; open (Unell & Wyckoff, 1995).

Honor. To live up to a set of standards; to treat others with honor.

Integrity. An unimpaired condition; firm adherence to a code of especially moral or artistic values; the quality or state of being complete or undivided. The degree to which individuals lead their lives in accordance with a set of principles and values (Field, 1995).

Kindness. Being helpful and solicitous to others.

Loyalty. Faithful to one's allegiance; faithful to one's oath, commitments or obligations; faithful to any person or thing conceived of as deserving fidelity or imposing obligations (Unell & Wyckoff, 1995).

Morals. Of, or relating to, principles of right and wrong behavior; expressing or teaching a conception of right behavior; conforming to a standard of right behavior; sanctioned by or operative to a

standard of right and wrong action; of, relating to, or acting on the mind, character, or will.

Moral Education. The intentional bringing about of moral growth.

The encouragement of a capacity for moral judgment (Arnold, 1994).

Morality. Concerned with interpersonal relations involving a consideration of and concern for others as well as for oneself; attempts to distinguish right from wrong and good from bad (Arnold, 1994).

Perseverance. To be steadfast in endeavors.

Principles. Values, ideas, norms, and teachings that uplift, ennoble, fulfill, empower, and inspire people (Covey, 1991).

Prudence. Showing self-discipline and good judgment.

Respect. To consider worthy of high regard; the quality or state of being esteemed (Unell & Wyckoff, 1995).

Responsibility. The state or act of being responsible; reliable; dependable (Unell & Wyckoff, 1995).

Self-respect. Proper respect for oneself and his/her place in society.

Service. Contributing to the welfare of others.

Tolerance. A fair and objective attitude toward those whose opinions, practices, race, religion, nationality, or the like differ from one's own; freedom from bigotry (Unell & Wyckoff, 1995).

Trust. Placing confidence in others

Truth. Being sincere in action and character.

Values. Relative worth, utility, or importance; degree of excellence; something (as a principle or quality) intrinsically valuable or desirable; to appreciate.

Limitations of the Study

This study had two limitations which should be considered in interpreting the findings:

1. This study was limited to only agriculture education instructors who were teaching in public, secondary schools in the United States during the 1997-98 school year.

2. This study was limited to those instructors whose names were listed in the 1997 Agricultural Education Directory.

Importance of the Study

The need for this study was based upon consideration of the following factors:

1. There was a need to teach values to high school students. In a 1996 report from the American Association of School Administrators entitled What Students Must Know to Succeed in the 21st Century, the following civil skills and abilities were seen as necessary for students to be functioning members of society: (1) multicultural understanding, including insights into diversity and the need for an international perspective; (2) understanding and practicing honesty, integrity, and the 'golden rule'; (3) understanding and respect for those not like oneself – an appreciation for diversity; and (4) ability to take increased responsibility for one's own actions. Seventy-eight percent of the public, 77% of parents, 84% of teachers and 70% of leaders said that the value of hard work was a skill that was absolutely necessary for students to have for the future. Values such as honesty and tolerance of others are other skills that were seen as necessary components that should be acquired. Finally, habits of good citizenship were seen as essential parts of student development by 66% of the public, 64% of parents, 78% of teachers and 58% of leaders (Uchida, Cetron & McKenzie, 1996).

The Carnegie Report released in 1996 also made note of the need for teaching values to students:

All adolescents have basic human needs that must be met if they are to grow up into decent, caring, informed citizens. They must find ways to earn respect, establish a sense of belonging in a valued group, and build a sense of personal worth based on mastery of useful skills, including social skills. They must learn the peaceful management of conflict, the elements of ethical behavior, and how to use the social support systems available to them. Hopefully, during adolescence, they will acquire a positive vision of the future and of constructive opportunities in the adult world. (p. 9)

2. The teaching strategies for incorporating the teaching of morals and values in the secondary agricultural science needed to be identified.

Vaughn, Vaughn and Vaughn (1995) indicated that while much has been done in identifying technical competencies for high school agricultural education students, little has been accomplished in identifying teaching competencies which fall into the affective domain.

3. Literature showed there was a discrepancy as to what values are and what values should be taught. It is important to know the values that current teachers perceive can and cannot be taught in agricultural education. This was clearly stated in the 1996 Carnegie Report:

The United States is a large, heterogeneous, multiethnic nation with a strong tradition for individualism. These qualities are significant assets, but they also make it difficult for Americans to arrive at a shared understanding of

complicated social problems and turn that understanding into solutions that can win broad acceptance. Achieving a consensus on the values and behaviors appropriate for adolescents, and on the steps that can be taken to help them, will not be easy. But we must try, for it is not only the lives of young people that are at stake. It is our common future.
(p. 13)

4. There was no existing study in agricultural education addressing the subject of teaching values and morals in the secondary agricultural education classroom. According to Chang (1994), the relationship between moral behavior and moral judgment has been of interest to researchers, but the moral reasoning of teachers and its relationship with teaching has only received researchers' attention since the late 1970's. A thorough review of research in the field of agricultural education indicates a dearth of research on morals and values that should be included in the agricultural education curriculum. If morals and values are to be included in the curriculum for secondary agricultural education programs, a study must be conducted to help identify both the values and the most logical component of agricultural education through which these values should be taught.

CHAPTER II

REVIEW OF RESEARCH AND RELATED LITERATURE

Social Learning Theory

According to social learning theorists, moral judgment is interpreted by applying the cognitive structure one possesses to new situations. A person's previous history of observational learning and content area determine the moral judgments the person makes when addressed with a decision making situation. The social learning theorists attribute the developmental changes in moral judgment to a person's criteria for judgments, such as a person's individual standards, long range consequences, peer influence, intentions, clumsiness, expected reward or punishment, and amount of damage incurred (Miller, 1996).

Moral judgments involve a complex process of weighing and considering the various criteria of any given social situation. Depending on the situation, people will make different types of judgments. The first type is subjective judgments, which are based on intentions, and the other is objective judgments that are based on the amount of damage that could be caused (Miller, 1996). However, there is some dissension with this train of thought as Rosenthal and Zimmerman (1978) state that there are

not dichotomous, mutually exclusive types of moral reasoning or judgment. There is instead a change in the frequency of the various criteria from situation to situation and from age to age. Social learning theorists stress that people must attain a certain level of cognition before comprehension of certain types of moral judgments can be reached (Miller, 1996).

Experiments by social learning theorists prove that a person's moral reasoning skills can be altered. For example, Dorr and Fey (1974) showed that children observe and accept the moral judgments of others. They contend that observational learning can both transmit new moral rules to children and influence rules that already exist within children's moral framework. If a change in a person's existing moral fiber is to take place using this modeling/observation technique, it is important to remember that hypocrisy is easily detected. In fact, by using different features of the setting and the actions of a person allows his/her morality to be evaluated (Miller, 1996). In other words, if wanting to change the moral fabric of a student or a child, the change agent must "walk the walk and talk the talk" of the moral level to which he/she wishes the child/student to adhere.

Moral Reasoning and The Teacher

Teacher's Role in Moral Reasoning

The level of a teacher's moral reasoning has been shown to be related to how they view their role in the school environment. Teachers perceived their roles differently. This difference was viewed as a function of the teachers' moral reasoning. Results of studies showed that teachers at lower moral reasoning levels viewed their role in the classroom as controlling and policing; whereas teachers functioning at a higher level of moral reasoning viewed their roles in a much more democratic and facilitating manner (Johnston & Lubomudrov, 1987; MacCallum, 1991).

Discipline

Most empirical research showed that teachers at higher levels of moral reasoning tend to hold a more humanistic, democratic view of student discipline (Conroy, 1987). Teachers at levels of lower moral reasoning were more interested in conformity-oriented behavior, such as following rules and keeping an orderly classroom. They also tended to hold a custodial-authoritarian view of student discipline (Bloom, 1978; Deal, 1978; Holt, Kauckak, & Person, 1980; Novogrodsky, 1977).

According to Bailey (1985), several studies have shown that moral reasoning is related to the tolerance teachers exhibit toward students' disturbing behaviors. Teachers at the preprincipled moral levels tend to be upset by socially deviant behaviors and behaviors against social convention, whereas teachers at principled moral levels tend to be more tolerant of socially defiant behaviors.

Moreover, the moral reasoning scores of teachers were associated with their conceptualization of rules. Those teachers operating at lower levels of moral judgment visualize rules as needed primarily to maintain social order. If rules were disobeyed, it was viewed as a personal attack on the teacher. Teachers operating on higher levels of moral judgment saw that rules were needed to ensure certain rights of the students and encouraged students to take part in the rule development process (Johnston & Lubomudrov, 1987; Lubomudrov, 1982). Higher level reasoning teachers were also more willing to reason and explain rules to students from different perspectives than were low moral reasoning teachers (Chang, 1994).

Relationships with Students

Teachers who operate at the higher levels of moral reasoning perceive students' needs and feelings more effectively and maintain a more positive relationship with their students than teachers operating at the lower levels of moral reasoning (Johnston & Lubomudrov, 1987; Novogrodsky, 1977). When teachers with preprincipled moral reasoning were compared to teachers with principled moral reasoning, researchers discovered that teachers with principled moral reasoning tend to create participative and intellectual climates in the classroom (Holt, Kauckak, & Person, 1980).

Results from interviews indicate that high school students taught by teachers with high levels of moral judgment felt they received more support from their teachers than did students who were taught by teachers functioning at lower levels of moral judgment (Gerety, 1980). Accordingly, high moral reasoning teachers were perceived as more cheerful, friendly and admired by their students than lower moral reasoning teachers (Hilton, 1989).

Students perceived the moral atmosphere of the classroom as a function of the teacher's moral reasoning. Junior and senior high school students of high moral reasoning teachers responded more positively to

the moral atmosphere of their classroom than did students in classrooms of lower moral reasoning teachers (Gerety, 1980).

Understanding Educational Concepts

Teachers at higher moral reasoning levels exhibited an understanding of educational concepts in a more broad and deeper way than teachers at lower levels. For example, the ideas of “on task” were different for teachers at differing levels of moral reasoning. Teachers at lower levels of moral reasoning thought “on-task” meant working on an assignment given by the teacher, and whether or not the student was “on-task” was determined by the teachers observing student behavior. Teachers at higher levels of moral reasoning defined “on-task” differently for each student, depending on the individual characteristics of the student and teacher response (Johnston, 1985).

In an interview conducted by Wheaton (1984), teachers at lower levels of moral reasoning viewed themselves as the managers of students, materials, and district curriculum. Teachers at higher levels of moral reasoning saw the curriculum issues from a broader social view and in terms of individual student’s interests. High level moral reasoning teachers also stated that it was important to include students in

curriculum planning so that they could better understand the meaning of learning and its effect on their lives (Wheaton, 1984).

Teacher Performance

Studies designed to discover relationships between moral reasoning and student teacher performances have shown that student teachers performance was not related to their moral reasoning levels (Bergem, 1986; McNergney & Satterstrom, 1984; Thoma & Rest, 1987). Possible explanations for this nonsignificant relationship between student teacher performance and moral reasoning are: (1) student teachers were completing their student teacher experience in situations that were very different from those of regular classroom teachers; (2) teaching performances were not based on self-reported data; (3) teaching performances are more closely related to teaching knowledge and skills rather than moral reasoning and moral reasoning is a reasoning process about moral issues, therefore not relevant to knowledge and skills (Chang, 1994).

Findings revealed from these empirical studies show that except for teachers' competencies, moral reasoning is significantly related to teachers' conceptualizations of student discipline, curriculum, teacher's

roles and educational issues. Moral reasoning is related to teacher's relationships with their students and to the moral and intellectual climate of the classroom. One implication of this finding is that advanced moral reasoning may allow teachers to reason about teaching issues more fundamentally and thoroughly. Also, based on the more in-depth understanding, teachers with advanced moral reasoning may be more empathetic to the needs of students and more willing to facilitate students' learning, avoid taking students' challenges personally, respect students' rights, and be more objective when dealing with problems caused by students. It may also be that teachers with high levels of moral reasoning can be more student centered and perform more humanely, professionally and democratically.

Finally, it may be that teachers who exhibit advanced levels of moral reasoning can be more empowering to student learning and healthy social development than teachers with lower moral reasoning. This suggests that teachers' moral reasoning plays a crucial role in teachers' practice. Promotion of a moral reasoning component in training programs seems to be necessary for cultivating fully functioning teachers (Chang, 1994).

History of Moral Education

Education for morality is as old as education itself. Throughout history, education has had two major goals: to help people become smart and to help them become good (Lickona, 1997). Schools in the earliest days of our country faced moral education head on – through discipline, teacher's example, and the daily school curriculum. The public school's source for both moral and religious instruction was the Bible. However, when controversy arose as to whose Bible to use and which doctrines to teach, William McGuffey developed the McGuffey Readers in 1836 which ultimately sold over 100 million copies. While retaining many favorite Biblical stories, McGuffey also added poems, exhortations and heroic tales. This allowed students to learn lessons about honesty, love of neighbor, kindness to animals, hard work, thriftiness, patriotism and courage while practicing their reading and arithmetic (Lickona, 1997).

Powerful blows in the 20th century began to crumble the consensus supporting moral education. The first major blow was Darwinism which introduced the theory evolution which led people to see all things, including morality, as being in flux. Secondly, the philosophy of logical positivism came to America from Europe to assert a radical distinction between facts, which are scientifically proven, and values, which are mere

expressions of feeling rather than objective truth. As a result of positivism, morality was privatized and made to seem a matter of personal “value judgment” rather than a subject for public debate and transmission through schools. Personalism surfaced in the 1960’s emphasizing individual rights and freedom over responsibility. While Personalism protested societal oppression and injustice, it also delegitimized moral authority, eroded a belief in objective moral norms, turned people towards self-fulfillment, weakened social commitment and fueled the sexual revolution. Finally, the pluralism of American society and the increasing secularization of society became two more barriers to achieving moral consensus for moral education in public schools. Consequently, public schools retreated from their once central role as moral and character educators (Lickona, 1997).

In the 1990s, there is the beginning of a new moral education movement, one which restores “good character” to its historical place as the central desirable outcome of the school’s moral enterprise (Lickona, 1997) According to Berliner and Biddle (1997), the American society must have the literacy to understand and the emotional education to marvel at nature, detect fraud, practice good citizenship, and lead fulfilling lives. Senator Edward M. Kennedy (1997) speaking about national goals and

standards for American public schools states that one of the objectives the system must meet is that students should “understand the basic values and history of our democratic society, including informed participation, dealing in good faith, the ability to understand opposing viewpoints, and empathy for one’s fellow human beings” (p.121).

The Moral Education Movement

There are at least three causes for the current interest in moral education. The first is the decline of the family. Traditionally the family is a child’s primary moral teacher, but for vast numbers of children today, it is failing to perform that role, thus creating a moral vacuum. Economist Sylvia Hewlett (1991) documents that American children, both rich and poor, suffer a level of neglect unique among developed nations. Overall, the well being of children in the U.S. has declined despite a decrease in the number of children per family, an increase in the educational level of parents and historically high levels of public spending in education (Lickona, 1997).

Lickona (1997) refers to the article “Dan Quayle Was Right,” by Barbara Dafoe Whitehead as she synthesizes the social science research of the decline of the two biological-parent family in America. She states: “If

current trends continue, less than half of the children born today will live continuously with their own mother and father throughout childhood ... An increasing number of children will experience family break-up two or even three time during childhood” (p. 54). The children of single mothers and children of marriages that end in divorce are more likely to be poor, have academic failure, have behavioral and emotional problems, get pregnant, abuse alcohol and drugs, have trouble with the law, and be physically and sexually abused (Lickona, 1997).

Lickona states that the major impact of this trend has been seen mostly in the public schools. Whitehead (1993) states:

Across the nation, principals report a dramatic rise in the aggressive, acting out behavior characteristic of children, especially boy, who are living in single-parent families. Moreover, teachers find that many children are so upset and preoccupied by the explosive drama of their own family lives that they are unable to concentrate on such mundane matters as multiplication tables. (p. 57)

According to Lickona (1997), the disintegration of the family drives the moral education movement in two ways: (1) schools have to teach the values students are not learning at home; and (2) schools in order to conduct a normal curricular day, must become caring moral communities

that help students from unhappy homes focus on their work, control their anger, feel cared for, and become responsible students.

The troubling trends in youth character is the second major cause of the moral education movement. Lickona states that the sense that young people in general have been adversely affected by poor parenting; the wrong kind of adult role models, the materialism, sex and violence portrayed in the mass media; and the pressures of peers. This hostile moral environment is evidenced by the toll being taken on youth character by the following trends: rising youth violence, increasing dishonesty in the form of lying, cheating and stealing; growing disrespect for authority; peer cruelty; a resurgence of bigotry on the school campuses; a decline in the work ethic; sexual activity; a growing self-centeredness; declining civic responsibility; and an increase in self-destructive behavior. Kant's view on the relationship between education and the formation of character is seen as a moral view based upon reasoned and universally accepted principles; it emphasizes the giving of respect to others as well as respect for oneself; and it draws attention to the fact that the development of character is not a passive process but an autonomously active and purposeful one having to do with self-formation (Arnold, 1994).

The third cause for the need for moral education is a recovery of shared, objectively important ethical values. The decline of society's morality has jolted the public into seeing the need for moral education. According to Lickona, "we are recovering the wisdom that we do share a basic morality, essential for survival; that adults must promote this morality by teaching the young, directly and indirectly, such values as respect, responsibility, trustworthiness, fairness, caring, and civil virtue; and that these values are not merely subjective preferences but that they have objective worth and a claim on our collective conscience" (p. 55).

"Moral education, absent religion and its unique understanding of the rights and obligations of mankind, becomes merely a matter of shouted claims and counterclaims – what lawyers sometimes call a case of he said-she said. The problem is more than theoretical – it is practical and immediate" (Murchison, 1997, p. 65).

Moral Education and Co-Curricular Studies

The general education curriculum on the secondary level consists of a five subjects which dominate the curriculum: mathematics, science, social studies, the English language arts, and foreign languages. The central purpose of the subjects in the general education curriculum is to

meet college admission requirements, however, these courses do not make up the entire curriculum for secondary high school students. Other courses, such as co-curricular studies also play a prevalent role in the secondary educational system. Co-curricular studies are those courses that are not encompassed in the general education curriculum. “The general term ‘co-curricular’ pertains to the experiences that learners have under the sponsorship or direction of the school in addition to content often prescribed in some form of curriculum guide or handbook” (Longstreet & Shane, 1993, p. 331).

While subjects such as physical education, music, home economics, and agricultural education are usually included as part of the school curriculum as required or as electives, many schools also sponsor co-curricular groups in these fields. Many of these school sponsored groups are band, team sports or organizations such as FHA and the FFA. Many schools offer a variety of electives for students. Electives are choices not specifically required by the curriculum guide for graduation. Activities such as agricultural education are often used as electives in the secondary school system (Longstreet & Shane, 1993).

The merit of electives and co-curricular activities in the secondary school system have been noted. “Co-curricular activities have long been

conceived as opportunities to socialize the young, to develop their citizenship and leadership skills, and to direct their energies toward worthwhile projects” (Longstreet & Shane, 1993, p. 332). Co-curricular studies fill a void in the general education curriculum. According to Goodlad, as cited in The School’s Curriculum: Realities and Prospects (1993), “activities associated with students’ own goal setting, problem solving, collaborative learning, autonomous thinking, creativity, and the like are conspicuously absent in the school curriculum” (p. 330). Arnold (1994) refers to sports (a co-curricular study) as showing a clear connection between the playing of team sports and the development of social and moral values. Sports and other co-curricular studies (such as agricultural education and the FFA) can be used as a means of teaching social and moral values and that the practice of sport is not only just but essentially moral (Arnold, 1994).

Defining Values

The Greek root, axios, was used as an adjective in ancient time to mean “worthy of esteem.” It was a word the Greeks used to exalt the virtues of their heroes, warriors, and statesmen (Reale, 1995). In modern times, the root *axios* has been formed into the word axiology, which is the

science of values with the primary task of understanding the world of values (Grünberg, 1995). Bahm (1995) stated that “axiology is the most general value science; its primary task is to inquire into the nature of values, that is, of all values, and thus of what all values have in common” (p.93).

Values are very difficult to define (Hague, 1993). Sagatovsky (1996) defined “value” as a state of the human mind. Sagatovsky (1996) continued by explaining that values are different from other states of mind in their function and form of existence. For example, “materialists and utilitarians find it difficult to distinguish values and needs, and rationalists find it difficult to distinguish values and knowledge” (Sagatovsky, 1996, p. 145).

Although defining values is not easy, many researchers have offered their definitions of values (Alwin & Krosnick, 1984; Hague, 1993; Heaven, 1993; Pitts & Woodside, 1991; Rokeach, 1973; Sagatovsky, 1996). Alwin and Krosnick (1984) indicated that, in order to understand human behavior, there must be an understanding of the concept of values. Williams (1968) defined the concept of values as standards of desirability invoked in social interactions to evaluate the preferability of behavioral goals or modes of action (Pitts & Woodside, 1993). From this perspective,

Rokeach (1970) claimed that values are assumed to be central to the cognitive organization of the individual and to serve as a basis for the formation of attitudes, beliefs, and opinions (Pitts & Woodside, 1993).

Previous work on values support the view that values guide attitudes and actions and that individual attitudes and beliefs are sanctioned by one's value system (Feather, 1982).

However, Hague (1993) discusses how defining values is more complex than a belief:

...what is a value? A value, if it is to be something distinct, cannot be confronted with mere belief. To believe something to be valuable is not the same as to value it. Belief can stop at cognitive. Desire can stop at affective. To value something is to know it, to desire it, and to do something about its pursuit. Thus a value has three aspects: cognitive, affective, and connotative. A value, then is a conception of the desirable leading to the selection of various modes, means, and ends of action. (p. 36)

Sagatovsky (1996) stated that values become values only when they begin to perform a function – the function of choice. Hunter Lewis (1990), in his book titled A Question of Values, explained that there are six ways in which individuals choose values: “(1) authority – taking someone else's word, having faith in external authority; (2) deductive reasoning – subjecting beliefs to the variety of consistency tests that underlie deductive reasoning; (3) sense experience – gaining direct knowledge

through our own five senses; (4) emotion – feeling that something is right; (5) intuition – unconscious thinking that is not emotional; and (6) science – using synthetic techniques that rely on sense experience to collect facts, intuition to develop a testable hypothesis about facts, and logic (experiment) to develop the test” (Lewis, 1990, pp. 10-11).

Values can be very confusing because there are so many different levels of moral discourse which are multidimensional composites. To restate and add to Hague’s (1993) statement that values are very difficult to define, values are also very difficult to measure. In answering the question “How are values known?”, some like the list provided by Lewis. Bahm (1993) concluded that values are intrinsic in either an objective or subjective form. He stated that “some intrinsic values are both subjective and objective at the same time” (p. 63). Grünberg (1995) explained Bahm’s reasoning as follows: “in the first case, a value is a property of objects or of feelings; in the second case, it is a relationship that arises out of circumstances linking the object with the valuing subject in a special way” (p. 146).

Value Research

Research studies measuring personal values began with Spranger (1928) when he established a framework in which to identify values. The framework consisted of six personality types along with characteristics of each that could be used to identify and examine the values of each type. Allport, Vernon and Lindzey (1960) expanded Spranger's types to measure the relative importance of the six values in the process of human development (the Allport-Vernon-Lindzey Scale).

The most renowned instrument for measuring values is the Rokeach Values Survey (RVS) (Heaven, 1992) because of its extensive use in a broad range of studies. In developing a values theory, Rokeach (1973) used two broad categories of values in a simple ranking process to determine an individual's form to study values (Herche, 1994). The Rokeach Values Survey (RVS) consists of 36 concepts: 18 labeled as terminal values or end states of existence, such as "a comfortable life," "salvation," "inner harmony," and "wisdom." The other 18 are labeled as instrumental values or modes of conduct, such as "honest," "loving," "ambition," and "responsible" (Hague, 1993; Heaven, 1992).

Another well-known instrument in the area of values research in the University of Michigan Survey Research Center's List of Values (LOV)

(Kahle, 1983). LOV used a Likert-type scale to measure the importance of a list of specific values to individuals or groups (Herche, 1994). The Values and Life Styles (VALS) instrument is often used to measure lifestyles. It consists of 34 questions that classify respondents into one of nine lifestyle groups (Herche, 1994). Because the term “values” can apply to other diverse areas such as ethics, and morals (Herche, 1994), Kohlberg’s Measurement of Moral Judgment has been very useful in establishing the significance and utility of the moral stages theory for which Kohlberg is recognized (Colby et al., 1987).

A 1992 research project by Lanckton studied 30 middle-school English and history teachers who were currently teaching in a variety of schools, from poor, urban school to more affluent, suburban schools. This study was an investigation into the attitudes regarding and the training for the work of moral education. The study revealed that approximately a third of the teachers saw moral education as a priority in their work. A little more than a third thought it was inappropriate or were opposed to it. A little less than a third had ambivalent attitudes about the appropriate stance. Ryan (1996) confirms this by stating that while approximately a third of practicing teachers are personally committed to moral education and see it as a major motivation for their work, approximately 40% of the

teachers feel that it is not. Reasons teachers feel value education should not be included ranges from fear of being sued for indoctrinating values, to the conviction that they are subject-matter specialist (e.g. math teachers) and have no role in value education.

A study of education textbooks conducted by Jane Wells (1991) showed that over recent decades moral education has been de-emphasized so that now only the rare textbook mentions this as a work of the teacher or the school.

Character Education

In the past decade, “character education” has emerged as the leading term for school efforts to implement programs in the areas of ethics, citizenship education and moral values (Lickona, 1996). Character education is defined as “the deliberate effort by schools, families, and communities to help young people understand, care about, and act upon core ethical values” (p. 93). Character education is believed to be the most promising approach to the social-moral problems of modern society.

Lickona (1996) cites three reasons why all schools should be engaged in character education: (1) we need good character to be fully human; (2) schools are better places, more conducive to teaching and

learning when they are civil and caring human communities that promote, teach, celebrate and hold students and staff accountable to the values on which good character is based; and (3) it is essential to the task of building a moral society.

In the early 1990's, the United States Congress authorized funds for character education materials and teacher training programs aimed at teaching "core ethical values" such as responsibility, caring, trustworthiness, respect, and caring. In July, 1994, the first White House Conference on "Character-Building for a Democratic, Civil Society" was held. The Second Annual White House Conference on character building was held on May 19-20, 1995 and there is currently a third conference in the planning stage (Lickona, 1996).

Character Education Initiatives

While being a positive role model for students is very important and should be practiced in the classroom everyday, there are ways to utilize the formal curriculum for moral development. Examples of ways to explicitly teach morality are the Character Education Curriculum, the Character Counts! Initiative and the Personal Responsibility Education Process (PREP). The Character Education Curriculum was first developed

in 1969 for kindergarten through fifth grades. Since that time, programs for sixth through ninth grades have been developed and currently, the curriculum for high school is being pilot tested (Character Education Curriculum [Brochure]).

The curriculum which was developed at the Character Education Institute based in San Antonio, Texas (Character Education Curriculum [Brochure]) strives to produce graduates from educational systems that are intelligent, ethical and responsible citizens. The universal values that are taught through this program are honor, courage, convictions, honesty, truthfulness, generosity, kindness, helpfulness, justice, respect, freedom, and equality. These basic standards represent a plan for living with dignity, integrity, respect and responsibility. The lessons that have been developed include activities which focus on goal setting, good self-esteem, self-discipline, respect, etc. The character education curriculum can be taught as an individual, stand-alone subject or be correlated with social studies, language arts, health and/or career education. Inservice is provided by professional staff and consultants so that teachers can effectively use the instruction kits developed for this program (Character Education Curriculum [Brochure]).

Results of the program have been very positive. Elementary school teachers (n = 269) were surveyed nationwide and noted the following improvements after implementation of the program: (1) self-concept of students increased 93%, (2) students' oral language skills improved 87%, and (3) student behavior improved 85 % in the classroom and 69% on the playground (Character Education Curriculum [Brochure]).

The Character Counts! Initiative ("Six words," 1996) encompasses more than just the school; it is a community wide program. The idea for the Character Counts! program began in 1992 at the Josephson Institute for Ethics, which is a California-based think-tank that studies and promotes ethical and moral behavior. Currently, the program has been adopted by at least 326 cities and counties in 47 states. At least 102 community, educational and youth groups sponsor this program. The program developed six pillars (characteristics) deemed so universal that all people could use them and they are as follows: trustworthiness, respect, responsibility, fairness, caring and citizenship ("Six words," 1996).

Albuquerque, New Mexico, was the first and largest community to embrace Character Counts! The program started in 1993 at Bel-Air Elementary School, on the city's gang-ridden northeast side, with teachers

emphasizing one pillar a month. In the first three months that this program was used, discipline citations fell from 60 per month to 20 per month. In fact, it was so positive that Mayor Martin Chavez made the pillars the center piece of his war on youth violence. Character Counts! messages are being printed on utility bills, sides of city buses and corporate sponsored billboards ("Six words," 1996).

The Personal Responsibility Education Process, which is commonly referred to as PREP, is a collaborative school and community effort to achieve goals that will enable students to develop their academic potential while embedding positive character traits (Noyd & Richardson, 1996). The PREP program began in 1988 in the St. Louis, Missouri area. A group of people from the corporate world led by Sanford McDonnell, chief executive officer of McDonnell Douglas Corporation, and educational leaders decided to create a plan to coordinate school and community efforts to develop responsible citizens in the schools. The PREP initiative was different for each school district and the vehicles used to promote the program were different as well, but the outcome was the same. Teachers from the schools came together and developed a curriculum to implement in their schools to teach moral education. Although some of the character traits were different for each school, some of the common traits that were

stressed were: assertiveness, commitment, compassion, courage, discretion, goal setting, kindness, patience, respect, responsibility, belonging, self-esteem, cooperation, loyalty, honesty, unselfishness, perseverance, and volunteerism (Berg, 1996; Noyd & Richardson, 1996).

Current Climate Regarding Character Education

A constantly increasing amount of people inside and outside of education are calling for schools to take a stronger role in character formation and help students acquire the enduring habits or virtues they need to lead good lives (Ryan, 1996). Children in today's society are living "at risk" with strong moral forces in their lives, and public schools are no longer places which teach the community's best values and help students develop the strong habits that make for good character. Recent public opinion polls show widespread support for the role of public schools in moral education. Schools are being called back to what has been their traditional role of supporting families, churches, communities, and others in their work of passing on good values and good habits to the young (Ryan, 1996).

Agricultural Education

Some type of agricultural education has been present in the public school system since the beginning of public education with the first courses being taught as academic, nonvocational in nature. Prior to 1917, when the Smith-Hughes Act was passed, 30 states had established agricultural courses in the public schools. The Smith-Hughes Act provided federal funds to promote vocational education in agriculture which had to be matched with local and state funds. This Act and subsequent acts were very effective in promoting the establishment of courses of vocational education in agriculture. The best known type of agricultural education in public schools is vocational education in agriculture. This is a relatively new addition to the program of public schools and can be defined as the

systematic instruction in agriculture at the elementary, secondary, post-secondary, or adult level for the purpose of preparing persons for initial entry or reentry into occupations in agriculture. Furthermore, vocational education in agriculture carries the additional of instruction leading to job creation, development, and entrepreneurship. It also may be designed for occupational awareness, exploration, orientation or job preparation and creation, depending on the age of students enrolled in the program. (Phipps & Osborne, 1988, p. 3)

Philosophy of Agricultural Education

Over the years, agricultural education has shaped and refined a clear philosophy with several distinguishing characteristics. Agricultural educators put an emphasis on pragmatism. The instruction, methodology, program, and courses are based on the problems involved in the various tasks in the agricultural world of work making the content of the courses flexible and changing. Principles and theories are studied as potential solutions to real problems while practical application and the successful transfer of knowledge into real-world settings is the goal of instruction. The emphasis is on learning by doing and this is accomplished by using laboratory work, field trips, problem solving and supervised agricultural experience programs (Phipps & Osborne, 1988).

Much emphasis is placed on the individual student in agricultural education. Activities and experiences in vocational agriculture programs contribute toward the development of positive self-concepts and self-confidence in students. It is believed that any student can achieve success given timely and appropriate support and encouragement from teachers of agricultural education. The importance placed on home and job visits by the teachers and by basing the content of instruction on the individual

shows the students that they have worth and importance (Phipps & Osborne, 1988).

Objectives of Agricultural Education

Agricultural education is an important part of the public school system in that it contributes to the general objectives of education. It contributes to the development of the student's ability to think and study and also solve problems efficiently using the skills of collecting and interpreting data. Agricultural education also aids in the development of desirable interests and attitudes, and in the development of social sensitivity and resourcefulness of students. According to Phipps and Osborne (1988), a comprehensive program of agricultural education, in addition to contributing to the objectives of all types of education, should do the following:

1. Develop understanding of the influence of research on agriculture and on other aspects of our society, such as medicine and consumer products.
2. Develop understanding of interrelationships of agriculture and other segments of society.
3. Develop understanding of the influence of public policy on agriculture.

4. Develop understanding and appreciation of agriculture for avocational and leisure interests.
5. Promote creative activities of students.
6. Promote meaningful and practical applications of the content of other subject matter areas, such as science and mathematics.
7. Provide guidance regarding the opportunities in occupations requiring knowledge and skills in agriculture.
8. Assist in improving the economic efficiency of agriculture and individuals in agriculture.
9. Promote balance and meaning in the total educational program of the school and of the individuals.
10. Develop understanding of the contributions of agriculture to society.
11. Assist present and prospective workers in agricultural education occupations in improving their efficiency (pp. 9-10).

Brief History of Agricultural Education

Teaching of agriculture has been around in America since the first colonist came to this country. Agriculture trades were taught through apprenticeships and fathers were held responsible for teaching their sons to farm. One of the first agriculture schools was established in Georgia around 1734 for orphans. A similar school called the Bethesda School in Savannah, Georgia, was founded in 1740 and a private school in Gardiner,

Maine, offered agricultural education in 1821, the year the first public high school was established (Hamlin, 1956).

Agriculture in public schools of less-than-college grade began in certain elementary schools in Massachusetts in 1858. Teaching agriculture in secondary schools began in Elyria, Ohio in 1902, and an agriculture teacher was employed by a public school in Carroll County, Georgia in 1903. In some states, emphasis was placed on agriculture training as part of general education for it was provided for all rural boys and girls. Many schools provided agriculture education primarily for farmers and prospective farmers; supervised practice was stressed; instruction was available to young and adult farmers as well as to school-age children and youth. By 1916, the number of public high schools teaching agriculture had risen to 3,181 (Hamlin, 1956).

The first action to provide agricultural education of less-than-college age pupils at the public's expense and under public control was taken by the local school districts. Later, the states aided its development and the first bill proposing national aid was introduced to Congress in 1907. The first act providing aid for agricultural education did not pass until 10 years later on February 23, 1917. This, of course, was known as the Smith-Hughes Act (Hamlin, 1956).

When agricultural education was introduced in public schools, there were approximately 200,000 school districts in the United States. Nearly all farmers were in districts supporting one-teacher elementary schools. Farm children were just beginning to attend high schools, which at the time, were very new to most rural areas. High schools available to them were in neighboring towns and cities. There was a heavy dropout rate the first two years in high schools of the period. Consequently, agricultural education courses were provided the first two years to reach as many farm boys as possible. The typical course work dealt with crops and livestock. It was not until 1930, that agriculture courses were offered in the eleventh and twelfth grades. The courses taught were usually more advanced in nature. Examples of these courses included farm mechanics and management (Hamlin, 1956).

In 1996, there were approximately 7,791 school systems in the United States offering courses in agricultural education (NVATA Office, 1997).

Instructional Components of Agricultural Education

In agricultural education programs at the secondary level, there are four components commonly included as integral parts of instruction: (1)

classroom instruction, (2) supervised agricultural experience (SAE) programs of the students, (3) laboratory instruction, and (4) FFA, the vocational student organization.

Classroom Instruction

Classroom instruction gives students opportunities to study and discuss problems that pertain to specific areas of agriculture.

Consequently, students gain knowledge and study principles that allow them to discover potential solutions to agricultural problems. Classroom instruction in agricultural education sets the stage for real understanding, application and problem solving in the agriscience laboratory and the real world (Phipps & Osborne, 1988).

Supervised Agricultural Experience

Supervised Agricultural Experience (SAE) programs provide opportunities for agriculture students to apply the skills and knowledge learned at school to real-world situations. These programs include: farm or agribusiness placement, directed laboratory experiences, productive enterprises, exploratory experiences, improvement projects and supplementary skills. SAE programs are directed under the supervision of

an agriscience instructor and provide an integral component of instruction in agricultural education programs. Expectations of the students involved in this program are the ability to apply knowledge and skills gained as a result of classroom instruction to problems encountered in their SAE.

Supervised Agricultural Experience programs also provide students a way to individualize their study of agriculture while providing teachers the opportunity for one-on-one interaction with their students (Phipps & Osborne, 1988).

Laboratory Instruction

The laboratory instruction component of an agricultural education program involves laboratory teaching and learning activities in agriculture. Examples of laboratory instruction include, but are not limited to: machinery repair, artificial insemination, plant propagation, and insect application. This type of instruction usually occurs in a setting other than the classroom, but is not restricted to indoor activity. Effective instruction in the laboratory requires teacher demonstration and supervision of student practice. This component of the agricultural education curriculum serves as the major setting where students develop psychomotor skills and apply principles learned through classroom

instruction. Laboratory instruction is seen as the essential link between classroom instruction and skill development (Phipps & Osborne, 1988).

The FFA Organization

The agricultural education organization known as the FFA (formerly the Future Farmers of America), is the national organization of, by, and for students studying agricultural education in public secondary schools which operate under the provisions of the National Vocational Education acts. This organization is an educational, nonprofit, nonpolitical youth group of voluntary membership designed to develop leadership, character, thrift, scholarship, cooperation, citizenship, and patriotism. Members of this organization learn through participating in different experiences to conduct and take part in public meetings, public speaking skills, to buy and sell cooperatively, and to assume civic responsibility. The FFA is recognized as an integral part of the agricultural education program and constitutes one of the most effective devices for teaching through participating experiences. It is an intra-curricular part of agricultural education programs and provides a variety of opportunities and experiences for students in all types of programs at the secondary level (Phipps & Osborne, 1988).

The original idea for the Future Farmers of America was fostered after courses in agricultural education were established by the National Vocational Education Act in 1917. Virginia formed a future farmers club for boys in agriculture classes in the early 1920s, and the national organization was formed in 1928 in Kansas City, Missouri. The New Farmers of America, the organization for black agriculture students, merged with the FFA in 1965, and girls were allowed to become members in 1969. In 1988, the official name of the organization changed from the Future Farmers of America to the National FFA Organization (Official FFA Manual, 1996).

The main goal of the FFA is to “develop leadership, cooperation and citizenship for tomorrow’s agriculturists” (Official FFA Manual, 1996, p. 1). The national FFA organization is a major force in developing leadership in today’s youth. It is structured on three levels – local, state and national. On the local level, FFA chapters may be chartered in any public school with an agricultural education program. Leadership is provided by elected student officers and advisors (usually the agriscience teacher) who guide the chapter activities. A Program of Activities organizes what each chapter does in a year, serving as a guide for planning

and accomplishing goals. A wide range of activities are planned to meet the needs of members and the community (Official FFA Manual, 1996).

The FFA is structured into degree programs which reward FFA members for achievement in all phases of leadership, skill and occupational development. There are four categories of membership in FFA – active, which are those currently enrolled in agricultural education; honorary, individuals who have rendered outstanding service to the FFA and the agricultural education program; alumni, open to former members; and collegiate, for members of college FFA organizations (Official FFA Manual, 1996).

Value Education in Agricultural Education

Although research in the area of value education in the agricultural education classroom is limited, the concept of incorporating value education into the agriscience curriculum is not a new idea. There are numerous theory articles (Whaley & Kokes, 1995; Field, 1995; Rudolf & Coffey, 1995; Coonrad, Lofquist, Southwick, & Thorn, 1995; Coffey & Goodwin, 1995; Campbell, 1995; Trujillo, 1995, Dormody & Torres, 1995; Lockaby, 1995; Lewis, 1995) promoting integrity and value education in the various component areas of instruction for students and instructors of

agricultural education. Many of these theory articles stress that the values taught are unique to a specific component of agricultural education. For example, some of the authors such as Vaughn, Vaughn and Vaughn (1995) contend that specific personal qualities can only be learned through the FFA component. Phipps and Osborne (1988) stress that the laboratory component is essential for teaching many values that pertain to the work ethic.

The Need for Value Education in Agricultural Education

In some areas of the United States, select groups of individuals help dictate what is taught in the school systems. While there is no legislation or regulation for morality, Coffey and Goodwin (1995) state that professionals in agricultural education can and should make morality part of education. They suggest that leaders in agricultural education should search and implement better methods of teaching the challenge of ethics education in agriculture, while remembering that agriscience education does not have a monopoly on this type of education since it touches every aspect of the students' lives. Whaley and Kokes (1995) state that the initial course of study in agricultural education was designed toward acquiring and applying relevant production practices in agriculture.

However, the increase in the knowledge of agricultural sciences has been complemented with deeper understandings of how students learn, develop reputations, and become successful. Student success is now often defined more broadly in terms of feeling, beliefs, and a sense of values. Honesty, sincerity, responsibility, and conscience are recognized on a regular basis as salient features in a successful agricultural education graduate.

Students who care more for their fellow man and their social and physical environment should ultimately produce a higher standard of living for society than one obtained by educating only the advantaged members to score high on all the tests that accompany the new standards (Berliner & Biddle, 1997).

Integrity and Values for Students

According to Whaley and Kokes (1995), the concept of promoting integrity and values in students is challenging. They also note that graduates of agricultural education programs will function in a professional and social climate where expectations for their conduct and judgment will exist, although those expectations may be poorly communicated and understood. Furthermore, agriculturists face an increasingly skeptical society concerned about the techniques, motives and

impacts of agriculture. Therefore, topics addressing judgment, ethics, and principle-based decision making is both necessary and appropriate for agricultural educators (Field, 1995). Rudolph and Coffey (1995) claim that students in the agricultural education classroom will measure the integrity of their instructors not only by what they say, but in how they deal with integrity on a daily basis. It is not just a classroom topic, but an ethical way of living.

“Individuals possessing integrity can be trusted to word and action, in planning and implementation, in professional and personal dealings, to hold to the highest standards. Their work and their handshake are as strong as a 100-page legal document and several escrow accounts” (Ginsburg, 1992, p. 2). Integrity measures the difference between a successful person and a mediocre person. Developing integrity is a life-long process and is aided by exposure to different people and scenarios (Coonrad, Lofquist, Southwick & Thorn, 1995).

The character of youth is largely formed in the same “window of time” in which they participate in agricultural activities such as showing livestock or participating in FFA (Coffey & Goodwin, 1995).

“Agricultural educators are commonly exposed to pressures from others to bend universal or personal moral principles or rules, to look the other way, or to make exceptions.” (Dormody & Torres, 1995, p. 21)

Problems Associated with Teaching Values and Morals

Instructors of agricultural sciences generally recognize that the one objection to values and morals as instructional topics is that they are not concrete or easily measured and that these topics are subject to criticism.

“Often [morals and values] are not perceived to be ‘safe’ topics. One’s vulnerability as an instructor is much heightened when beliefs about ethics and integrity are shared openly” (Whaley & Kokes, 1995, p. 3).

Whaley and Kokes also note:

The covenant of most modern educators is to provide a positive learning climate in which all students can reach a degree of personal success. Whether at the elementary or secondary level, university classroom or livestock show ring, the virtues of integrity ... honesty, fairness, responsibility, trust and accountability ... are to be valued and eagerly pursued as components of student success. These traits, although perhaps challenging at times to define and assess, can be planted, nurtured, and matured through the myriad of learning opportunities that exist naturally in most agricultural education programs – SAEs, FFA, classroom and laboratory instruction, and adult education. There is little question of the essentialness of integrity as one indicator of a graduate’s potential for success. Therefore, the promotion of integrity must continue to be recognized and valued within the core mission of agricultural education and tightly embraced by its professionals. (p. 16)

Problems Associated with Not Teaching Values and Morals

Although numerous authors have referred to the need for teaching values and morals, Tom Field (1995) makes the strongest case for teaching values and morals in agricultural education. He stresses that failure to teach values and morals is a sin of omission. He refers to four of the seven deadly sins as defined by Mahatma Gandhi. The first deadly sin he refers to is knowledge without character. Field states that knowledge is of little consequence; rather the application of knowledge has an impact that requires a strong sense of responsibility and accountability from those who are entrusted with the stewardship of ideas, concepts and information. The second deadly sin is commerce without ethics. According to Field, agriculture has been viewed as an industry where a handshake closed a deal. While many in the industry continue to live their lives in accordance with the ideal of fair play, there are too many examples of business decisions made without integrity. The third sin is science without humanity. Field says that due to the controversies surrounding technological advancements such as genetic engineering and the utilization of agricultural chemicals, there is adequate debate to warrant the incorporation of social, economics and philosophical considerations when evaluating technologies. The final sin as mentioned by Field is

politics without principle. Political action is the acquisition and utilization of power. How people use and respond to power is a major indicator of their character. Field states that better preparation of individuals in agricultural education for the challenges and consequences of using and distributing political power is needed.

Agricultural Education and the Seven Cardinal Principles

Phipps and Osborne (1988) state that agricultural education can make a significant contribution to the education and development of the student as a person and productive member of society. In 1918, a group sponsored by the National Education Association identified seven cardinal principles of education that soon became recognized as the objectives for educating every American citizen. These principles still provide the framework for education in the nation's school system.

Some examples described by Phipps and Osborne (1988, p. 11) indicate how agricultural education can contribute to the cardinal principles:

- a. Agricultural education provides desirable training for worthy home membership in that the instruction includes many problems closely related to home and family living.

- b. Agricultural education provides for many activities through the FFA and other school-sponsored organizations for the development of many abilities essential to desirable citizenship.
- c. Agricultural education contributes to the development of an ethical character through the pattern set by the teacher who spends considerable time with the students in many activities such as those in leadership, savings, cooperation, recreation, and supervised agricultural occupational experiences.

Professional Ethics of Agricultural Education Instructors

According to Phipps and Osborne (1988), the following are some of the principles of professional ethics that should be followed by instructors of agricultural education:

1. Conform to the regulations of the school.
2. Refuse to cast reflections on the activities of a fellow worker.
3. Consider a contract with the school binding, and fulfill it.
4. Refuse to be an applicant for a job held by a fellow teacher.
5. Abide by oral agreements as well as by those in writing.

6. Be a good winner and a good loser.
7. Refuse to make alibis for work.
8. Be fair and respect the rights of others (p. 136).

Teachers of agricultural education must also possess the proper attitude not only toward their work, but also toward the school system for which they work. They must be professionally minded, take suggestions kindly, be courteous and work for the benefit of the students and the community (Phipps & Osborne, 1988).

Summary

According to social learning theorists, a person's moral reasoning skills can be altered. An influential person in altering a young person's moral framework is the teacher, and the school can be utilized to strengthen moral character in children. The teacher's level of moral reasoning directly affects the teacher's conceptualizations of student discipline, curriculum, teacher roles and educational issues.

Educators have consistently expressed the need for teaching morals and values to high school and elementary students. Throughout history, education has had two major goals: (1) to help people become smart and (2) to help them become good.

Today's social climate in the United States is supportive of teaching morals and values to school children. There currently is a moral education movement designed to restore "good character" to its historical place as the central desirable outcome of the school's moral enterprise. There are a number of programs and projects, often referred to as character education initiatives, that are aimed at the development of universal morals and values in young people.

Despite widespread agreement about the need for teaching morals and values in the school system, there is controversy concerning what morals and values should be taught. There is almost no empirical research which identifies universal morals and values.

Since its beginning, agricultural education has been considered a program which emphasizes the moral, character, and value development in young people. Its four instructional components—classroom instruction, laboratory instruction, supervised agricultural experience, and the FFA organization—have been considered as vehicles to enhance character development in students. Various authors have noted that some of the attitudes and values taught in agricultural education are unique to a specific component – most notably the FFA organization.

No major study has been conducted which identifies the values that should be taught or which instructional component should be utilized for effective character development. Although there is general agreement on the need for teaching values, there is no consensus on the values to be taught. The literature also emphasizes the importance of identifying what values agricultural educators deem as important.

CHAPTER III

METHODOLOGY

The major purposes of this study were to: (1) determine perceptions of agricultural education teachers nationwide as to what values should be taught to students enrolled in high school agriscience courses; (2) identify in which component of the agricultural education program should these values be taught; and (3) identify if differences exist in perceptions of the teachers according to selected demographic variables and teacher behavior.

As a means of accomplishing the purposes of the study, answers to the following questions were sought:

1. What are the characteristics of agriscience teachers in the United States in regard to the following variables: (a) number of years teaching; (b) number of years teaching high school agriculture; (c) the number of teachers teaching agricultural courses at their school; (d) gender; (e) age; (f) ethnicity; (g) location of school; (h) number of students attending their high school; (i) number of students enrolled in agriculture courses; (j) percentage of students participating in FFA; (k) percentage of

- students participating in SAE program; and (l) self-perceived religious level?
2. What are agricultural education teachers' perceptions as to values that should be taught in a high school agriscience program?
 3. In which of the four components of an agriscience program (classroom, laboratory, supervised agriculture experience program, or FFA) do agricultural education teachers perceive these values should be taught?
 4. What is the relationship between the characteristics identified in question one and the perceptions of teachers as to what values should be taught in the agricultural education curriculum?
 5. Is there a relationship between teacher behavior and the values they think should be taught to students?

Design for the Study

The design for the study was descriptive survey as described by Ary, Jacobs, and Razavieh (1985). In addition to collecting information regarding agricultural education teachers' perceptions of values that should be taught in high school agriscience programs, relationships

between selected characteristics of the teachers and their perceptions were analyzed. A mailed questionnaire was used to gather the data for the study.

Population

The target population of this study was all secondary agricultural teachers who taught in public secondary schools in the United States during the 1997-98 school year. In 1996, there were approximately 10,250 agricultural education teachers in the 50 states and government territories where agriscience courses were offered (NVATA, 1997).

The list of individuals in the target population was taken from the Agricultural Educators Directory (Henry, 1997). A formula for estimating sample size recommended by Cochran (1977) and Dillman's (1978) suggested response rate were used to determine a minimum return sample size. By using this formula (see Appendix A), it was determined that a sample size of 175 was sufficient. Over-sampling was used because past national surveys of agricultural education teachers have shown low response rates. A total of 200 names were selected from the Agricultural Educators Directory nationwide for the 1997-98 school year.

The 200 teachers were selected from the Directory, using sampling techniques as described by Borg and Gall (1994). The sample was proportional and stratified by state. Individuals selected for the sample were surveyed starting the first week of September, 1997, and continued until the second week of October, 1997. One hundred forty-one teachers responded to the survey for a return rate of 70.5%. Three of the returned instruments were unusable.

Instrumentation

In an effort to control for nonresponse error, major portions of the Total Design Method (TDM) developed by Dillman (1978) were adopted as “tested guidelines on construction of the cover letter and questionnaire” (Miller & Smith, 1983, p. 46). Modifications to the design were made to meet mailing requirements.

The instrument for the study was a three-part, mailed questionnaire (see Appendix B). It was researcher-designed and composed in a booklet format according to the TDM. Part One was used to gather demographic information from the subjects. Part Two consisted of a two-column, five-point Likert-Scale using questions to determine which values should be taught in the agriscience curriculum and which component would

be the best vehicle of instruction. Part Three was designed by the researcher to collect implicit information about the values of the teacher.

After development, the instrument was presented to a panel of agricultural educators at Texas Tech University for review. Professors, graduate students, and high school agricultural education teachers made up the panel. The review was used to verify the validity of the instrument's content. Changes and clarifications were made prior to mailing the survey.

A pilot test of the instrument was conducted on June 18, 1997, using a group of 20 agriscience instructors who participated in a cooperating teacher conference sponsored by the Department of Agricultural Education and Communications at Texas Tech University. Each participant in the pilot study completed a questionnaire at the conference and was given a second questionnaire to complete at home and return after two weeks. Follow-up phone calls were made to all participants to enhance return of the questionnaire. Fourteen of the teachers returned the second questionnaire.

Data collected from the two rounds of testing were analyzed using SPSS for the Macintosh. Relationships between the first and second measures were used to determine a coefficient of stability for the

instrument. Coefficients ranged from .90 to 1.0 for each of the questions/statements. Comments from the teachers were also used to make changes in instructions, wording of questions and other items which could affect teacher response to the questions.

Data Collection

Data collection began the first week of September, 1997 using a mailed survey instrument. Procedures recommended as part of Dillman's (1978) Total Design Method were used to collect the data for the study. A cover letter (see Appendix C), questionnaire (see Appendix B), and self-addressed, stamped envelope were mailed to each of the teachers drawn in the sample. The survey package was mailed with first class postage in a white envelope with a typewritten mailing address and return address. The cover letter (see Appendix C) was hand signed by the researcher and the Chairman of the Department of Agricultural Education and Communications at Texas Tech University. The first mailing occurred on August 25, 1997, so it was received by the teachers during the first week of September.

The questionnaires were coded to identify respondents and non-respondents. Two weeks after the first mailing (September 8, 1997), a

postcard (see Appendix D) was mailed to all non-respondents as a reminder. Two weeks later (September 22, 1997), another mailing of the questionnaire, accompanied by a letter (see Appendix E) and a return envelope was sent to non-respondents. Telephone calls to all non-respondents was used as a final reminder two weeks later (October 6, 1997) after the second mailing of the questionnaire. A total of 141 teachers responded for a response rate of 70.5%. Three of the returned instruments were unusable.

Data Analysis

Survey instrument responses were coded and entered into a computer file for analysis. Statistical analysis of the data files was completed using SPSS for the Macintosh. Descriptive statistics were used to summarize the data pertaining to: (a) the demographic background and self-perceived religious level of the teachers, (b) teacher responses concerning values to be taught, and (c) program areas where the values should be taught.

In order to determine if there was a relationship between teacher characteristics and teachers' value perceptions, a stepwise multiple regression was performed using the .01 level of significance for variables to

enter the equation and for the final regression equation (see Tables 18-28). Although the a priori level of significance for the study was .05, it was reduced to .01 in order to control for the experimental-wise Type I error which might occur as the result of conducting repeated tests of significance.

Multiple regression was utilized because it could identify the teacher characteristics which account for the variance in the teachers' value perceptions. The stepwise method was selected as a means of having the computer select the most appropriate variables to enter the regression equation. The criterion variables that were used in the multiple regression were: caring, commitment, cooperation, courtesy, diligence, freedom, friendship, generosity, honesty, honor, kindness, loyalty, perseverance, prudence, respect, responsibility, self-respect, service, tolerance, trust and truth. The independent variables used for the multiple regression included the demographic variables that were identified in research question one (number of years teaching; number of years teaching high school agriculture; the number of teachers teaching agricultural courses at their school; gender; age; location of school; number of students attending their high school; number of students enrolled in agriculture courses; percentage of students participating in FFA;

percentage of students participating in SAE program; and self-perceived religious level.)

Prior to conducting the multiple regression, correlation matrices were examined to determine appropriate regression models. Independent variables which were not significantly related to the dependent variable were dropped from the regression models. A correlation coefficient for the categorical variable of ethnicity could not be calculated because of the lack of variance among the respondents. Therefore, ethnicity was dropped from all the regression models.

Relationships between the remaining independent variables were also examined to evaluate the potential threat of multicollinearity. A high intercorrelation ($r = .98$) was found between years of teaching and years of teaching agriculture. In two of the regression models, both years of teaching and years of teaching agriculture were found to be significantly related to the criterion variable. For these two models, one of these variables was dropped in order to avoid the potential threat of multicollinearity. In each case, the variable that was dropped was the one that had the lowest relationship with the dependent variable.

These processes resulted in regression models which had from one to five independent variables. The reduction in number of independent

variables produced regression models which had 27-133 subjects per independent variable. These ratios of subjects per independent variable were well in excess of the 15 subjects per independent variable as recommended by Stevens (1992). No significant relationships were found between teacher characteristics and their perceptions for two of the values included in the study: (1) honesty and (2) friendship. No regression models were prepared for these two values.

A plot of the standardized residuals versus the predicted values was constructed for each of the regression models and was examined for violations of the constant variance assumption. No systematic pattern or clustering of the residuals was found. The plots were also reviewed for outliers. No outliers in any of the regressions were detected.

CHAPTER IV

FINDINGS

This chapter includes a description of the findings of this study and was organized around the questions to be answered. The research questions to be answered were:

- 1. What are the characteristics of agriscience teachers in the United States in regard to the following variables: (a) number of years teaching; (b) number of years teaching high school agriculture; (c) the number of teachers teaching agricultural courses at their school; (d) gender; (e) age; (f) ethnicity; (g) location of school; (h) number of students attending their high school; (i) number of students enrolled in agriculture courses; (j) percentage of students participating in FFA; (k) percentage of students participating in SAE program; and (l) self-perceived religious level?**
- 2. What are agricultural education teachers' perceptions as to values that should be taught in a high school agriscience program?**

3. In which of the four components of an agriscience program (classroom, laboratory, supervised agriculture experience program, or FFA) do agricultural education teachers perceive these values should be taught?
4. What is the relationship between the characteristics identified in question one and the perceptions of teachers as to what values should be taught in the agricultural education curriculum?
5. Is there a relationship between teacher behavior and the values they think should be taught to students?

Findings Related to Question One

Question one dealt with the characteristics of agriscience teachers involved in the study. These characteristics are identified in Tables 1-12.

Years in the Teaching Profession

Table 1 illustrates the teachers' responses when asked how long they had taught. The range of responses was from one to 39 years. Slightly over one-third (34.8%) of the teachers had taught from one to nine years; slightly less (32.6%) taught from 10-19 years, and one-fourth (25.9%) had taught 20-29 years. Only 6.7% had taught more than 30

years. The mean years of teaching experience for the respondents was 14.8. The median was 14, and the mode was 5.

Table 1

Number of years in the teaching profession

Years	Frequency	Percent
1 – 9	47	34.8
10 – 19	44	32.6
20 – 29	35	25.9
30 – 39	9	6.7
TOTAL	135 ^a	100.0

^aN = 138, three missing responses

Mean = 14.82; SD = 9.32; Median = 14; Mode = 5

Years Teaching Agriculture

Teachers were also asked to indicate the number of years they had been teaching agriculture. Table 2 indicates that over one-third (38%) had been teaching agriculture from one to nine years. Another 31.1% had taught agriculture for 10-19 years, and 23.9% had taught agriculture for 20-29 years.

Only six percent had taught agriculture for more than 30 years, and the longest anyone had taught the subject was 39 years. The mean for years of teaching agriculture was 14.0, and the median was 13.5. The mode was 5 years.

Table 2

Number of years teaching agricultural education

Years	Frequency	Percent
1 – 9	51	38.0
10 – 19	43	32.1
20 – 29	32	23.9
30 – 39	8	6.0
TOTAL	134 ^a	100.0

^aN = 138, four missing responses
Mean = 14.0; SD = 8.98; Median = 13.5; Mode = 5

Number of Agricultural Teachers in School

The teachers were asked to indicate how many teachers besides themselves taught agriculture in the school. Their responses are illustrated in Table 3. A majority of the teachers (53.0%) indicated they were the only agriculture teacher in the school. One-fourth (25.4%) had one

teaching partner, 16.4% had two teaching partners, and 4.5% taught with three other agriculture teachers. Very few (.7%) were in schools that had four or more agriculture teachers.

Table 3

Response to question “How many teachers, besides you, teach agricultural courses at your school?”

Number of Additional Teachers	Frequency	Percentage
Zero	71	53.0
One	34	25.4
Two	22	16.4
Three	6	4.5
Four	1	.7
TOTAL	134^a	100.0

^aN =138, four missing responses

Gender

Table 4 reveals that a substantial majority (87.3%) of the teachers in the study were males. Only 17 of the 134 teachers who responded to this question were females.

Table 4

Gender of agriscience teachers

Gender	Frequency	Percentage
Female	17	12.7
Male	117	87.3
TOTAL	134^a	100.0

^aN = 138, four missing responses

Age

Teachers were asked to report their age. Table 5 indicates that most of the teachers were 30 or older. Approximately one in six (15.6%) were aged 24-29, 32.6% were 30-39, and 31.1% were aged 40-49. One in five (20%) were 50-59 years old, and only .7% were aged 60 or older.

Ethnic Background

Table 6 illustrates the responses of the teachers regarding their ethnic background. A substantial majority of the teachers (92.6%) indicated they were White/Non Hispanic. Only 1.5% responded that they were American Indian, 2.2% were Asian, 2.2% indicated they were

African-American, and .7% were Hispanic. One person chose “Other” for ethnic background.

Table 5

Age of respondents

Age	Frequency	Percentage
24 – 29	21	15.6
30 – 39	44	32.6
40 – 49	42	31.1
50 – 59	27	20
60 – 65	1	.7
TOTAL	135^a	100.0

^aN = 138, three missing responses
Mean = 40.47; SD = 9.39; Median = 40; Mode = 40

Table 6

Ethnicity of respondents

Background	Frequency	Percentage
African-American	3	2.2
American Indian	2	1.5
Asian	3	2.2
Hispanic	1	0.7
White/Non-Hispanic	125	92.6
Other	1	0.7
TOTAL	135 ^a	100.0

^a N = 138, three missing responses

Size of Community Where School is Located

Table 7 contains data regarding the size of the community where the teachers' schools were located. Most of the respondents taught in small communities. Over one-sixth (15.6%) indicated their school was in a rural area with less than 500 people, and one-half (51.9%) taught in a school located in a small town larger than 500 people but smaller than 5,000. Approximately one-fourth were in schools located in communities

with 5,000 to 50,000 people. Slightly under ten percent (8.9%) taught in large cities with populations greater than 50,000.

Table 7

Location of school

Location	Frequency	Percentage
Rural Area, Less than 500 people	21	15.6
Small Town, between 500 and 4,999 people	70	51.9
Urban Area, between 5,000 and 50,00 people	32	23.7
Large City, more than 50,000 people	12	8.9
TOTAL	135 ^a	100.0

^a N=138, three missing responses

Size of High School

One of the variables included in the study was size of the school where the teacher was located. Most of the respondents taught in schools with fewer than 1,000 students. Forty-one percent were located in schools with 100-499 students, 26% in schools with 500-999 students, and 6% were in schools with less than 100 students. Approximately the same percentage (11.3% vs. 9.7%) of the teachers were in schools with 1,000 to

1,499 and 1,500 to 1,999, respectively. Only 6% of the teachers were in schools with 2,000 or more students. The mean for school size was 750; the median was 520, and the mode was 1200.

Table 8

Number of students attending high school

Number of students	Frequency	Percentage
less than 100	8	6.0
100 – 499	55	41.0
500 – 999	35	26.0
1000 – 1499	15	11.3
1500 – 1999	13	9.7
2000 and above	8	6.0
TOTAL	134 ^a	100.0

^a N = 138, four missing responses
Mean = 747.98; SD = 737.67; Median = 520; Mode = 1200

Number of Students in Agriculture Courses

Most of the teachers had fewer than 150 students enrolled in their agriculture courses (Table 9). Nearly one-third (31.9%) had 50-99 students; 23% had 100-149 students, and 14.1% had 20-49 students. One

in ten (11%) of the teachers had 150-199 students, and 20% had more than 200 students. The largest number of students reported enrolled in agriculture courses was 720. The mean number of students was 136; the median was 103, and the mode was 60.

Table 9

Number of students enrolled in agriculture courses

Number of students	Frequency	Percentage
20 – 49	19	14.1
50 – 99	43	31.9
100 – 149	31	23.0
150 – 199	15	11.0
200 – 249	7	5.2
250 – 299	6	4.4
300 – 349	7	5.2
350 – 399	4	3.0
400 – 720	3	2.2
TOTAL	135 ^a	100.0

•N = 138, three missing responses
Mean = 135.6; SD = 108.20; Median = 103; Mode = 60

Percentage of Students Participating in FFA

The teachers were asked to indicate the percentage of agriculture students who were members of the youth organization for agriculture students—the FFA. The range of percentages reported by the teachers was from 0-100, with over half (52%) of the teachers reporting a membership of 76% or higher. One in five (20%) indicated they had a membership of 51-75%, and 17 % had membership percentages of 26-50%. Only 11% reported a FFA membership percentage of 25% or lower. The mean percentage for FFA membership was 72%; the median was 80%, and the mode was 100%.

Table 10

Percentage of agriculture students participating in FFA organization		
Percentage of Students	Frequency	Percentage
0 – 25	15	11.0
26 – 50	23	17.0
51 – 75	27	20.0
76 – 100	70	52.0
TOTAL	135 ^a	100.0

^aN = 138, three missing responses

Mean = 71.64; SD = 29.91; Median = 80; Mode = 100

Percentage of Agriculture Students Participating in SAE Program

Participation in a Supervised Agricultural Experience (SAE) program was reported by the teachers as a percentage of their total student enrollment in agriculture. Table 11 reveals a range of percentages from 0 to 100. Slightly over half of the teachers reported their percentages to be higher than 50%; 41.1% reported a participation percentage of 76-100%, and 12.8% reported percentages between 51-75%. Approximately one-fifth (22%) had a participation percentage of 25% or lower, and 24.1% reported percentages between 26-50%. The mean percentage of participation in SAE was 60%; the median was also 60%, while the mode was 100%.

Self-Perceived Religious Level

Teachers were asked to respond to the statement, "I consider myself a religious person." Table 12 indicates that a large majority of the teachers either agreed or strongly agreed with the statement. Slightly over one-third (35%) reported strong agreement with the statement, and nearly one-half (49.6%) agreed. None of the teachers indicated strong

disagreement with the statement; 10.9% chose uncertain as their response, and 4.4% disagreed with the statement.

Table 11

Percentage of agriculture students participating in SAE program

Percentage of Students	Frequency	Percentage
0 – 25	30	22.0
26 – 50	32	24.1
51 – 75	17	12.8
76 – 100	54	41.1
TOTAL	124 ^a	100.0

^aN = 138, five missing responses

Mean = 60.31; SD = 33.88; Median = 60; Mode = 100

Findings Related to Question Two

Agreement With Values

Teachers were given 21 values and asked to indicate their level of agreement as to whether these values should be taught in the agricultural education program (based on a scale of 5 = strongly agree and 1 = strongly disagree). Table 13 reveals strong (4.0 or higher) agreement that all 21 values should be taught in the agricultural

Table 12

Response to statement "I consider myself a religious person."

Amount of Agreement	Frequency	Percentage
Strongly Agree	48	35.0
Agree	68	49.6
Uncertain	15	10.9
Disagree	6	4.4
Strongly Disagree	0	0.0
TOTAL	137^a	100.0

^aN = 138, one missing response

education curriculum. Values receiving a level of agreement higher than 4.5 were responsibility (4.86), honesty (4.80), courtesy (4.79), cooperation (4.73), truth (4.70), respect (4.70), diligence (4.65), honor (4.64), self-respect (4.61), perseverance (4.60), commitment (4.57), and loyalty (4.55). Other values ranked in order of level of agreement were prudence (4.51), kindness (4.50), trust (4.50), caring (4.50), service (4.49), tolerance (4.41), friendship (4.40), generosity (4.35), freedom (4.12).

Table 13
Rating of Values

Value	Mean	SD
Responsibility	4.86	.35
Honesty	4.80	.42
Courtesy	4.79	.41
Cooperation	4.73	.45
Truth	4.70	.49
Respect	4.70	.49
Diligence	4.65	.50
Honor	4.64	.53
Self-respect	4.61	.60
Perseverance	4.60	.51
Commitment	4.57	.54
Loyalty	4.55	.54
Prudence	4.51	.56
Kindness	4.50	.57
Trust	4.50	.54
Caring	4.50	.61
Service	4.49	.63
Tolerance	4.41	.60
Friendship	4.40	.69
Generosity	4.35	.69
Freedom	4.12	.79

Findings Related to Question Three

Where Values Should be Taught

The teachers were asked which component of the agricultural education program (Classroom, Laboratory, SAE, or FFA) would serve as an appropriate medium for teaching each of the values. Responses were recorded according to the percentage of teachers who indicated that the component was an appropriate place for the value to be taught.

Values Appropriate as Part of the Classroom Component

Table 14 ranks each value according to the percentage of teachers who perceived the classroom component as a suitable locale for the value to be taught. Three of the values were perceived by more than 90% of the teachers to be appropriately taught in the classroom setting. Courtesy (96.4%), respect (91.3%) and honesty (91.2%) were the values seen to be best suited for classroom instruction. Other values receiving high ratings for the classroom component were truth (87.7%), responsibility (86.2%), kindness (86.1%), caring (84.1%), honor (83.9%), self-respect (81.2%), cooperation (80.4%) and prudence (80.3%). Over seventy percent of the teachers indicated that tolerance (79.7%), trust (75.2%), perseverance (74.5%), friendship (72.5%), loyalty (72.3%), diligence (71.7%), and

commitment (70.3%), were values that could be taught in the classroom. Although they ranked lowest, a majority of the teachers indicated that generosity (65.7%), service (60.1%), and freedom (54.7%) were appropriate for the classroom setting.

Values Appropriate as Part of the Laboratory Component

Table 15 indicates the laboratory component was perceived by the teachers as being a suitable mode of instruction for diligence (83.3%), responsibility (79.7%), cooperation (79%), courtesy (77.4%), honesty (75.9%). Fewer teachers agreed that respect (66.7%), perseverance (65%), prudence (65%), kindness (63.5%), and truth (61.6%) fit into laboratory instruction. A majority of the teachers also agreed that trust (59.9%), honor (59.1%), caring (52.9%), and self-respect (52.9%) could be taught in the laboratory. Those values deemed less appropriate for laboratory instruction were loyalty (47.4%), commitment (47.1%), friendship (46%), generosity (44.5%), tolerance (42.8%), service (37%) and freedom (34.3%).

Table 14
Classroom

Value	Percent Indicating Appropriate
Courtesy	96.4
Respect	91.3
Honesty	91.2
Truth	87.7
Responsibility	86.2
Kindness	86.1
Caring	84.1
Honor	83.9
Self-respect	81.2
Cooperation	80.4
Prudence	80.3
Tolerance	79.7
Trust	75.2
Perseverance	74.5
Friendship	72.5
Loyalty	72.3
Diligence	71.7
Commitment	70.3
Generosity	65.7
Service	60.1
Freedom	54.7

Table 15**Laboratory**

Value	Percent Indicating Appropriate
Diligence	83.3
Responsibility	79.7
Cooperation	79.0
Courtesy	77.4
Honesty	75.9
Respect	66.7
Perseverance	65.0
Prudence	65.0
Kindness	63.5
Truth	61.6
Trust	59.9
Honor	59.1
Caring	52.9
Self-respect	52.9
Loyalty	47.4
Commitment	47.1
Friendship	46.0
Generosity	44.5
Tolerance	42.8
Service	37.0
Freedom	34.3

Values Appropriate as Part of the SAE Component

The top four values seen as appropriate for the SAE component by the teachers were responsibility (87.7%), diligence (83.3%), honesty (83.2%), and perseverance (82.5%) (See Table 16). Commitment was deemed appropriate by 73.2% of the respondents. Others perceived by a majority of teachers as suitable for SAE were truth (65.2%), prudence (63.5%), honor (59.9%), freedom (58.4%), self-respect (55.8%), courtesy (55.5%), and respect (54.3%). Values seen as less appropriate were cooperation (50.0%), trust (49.6%), kindness (48.9%), caring (47.8%), loyalty (46.0%), generosity (43.1%), service (42.0%), tolerance (38.4%), and friendship (38.0%).

Values Appropriate as Part of the FFA Component

Table 17 reveals that many of the values were deemed as appropriate for being taught in the FFA component of agricultural education. The value receiving the most agreement by the teachers for inclusion in FFA was honesty (93.4%), closely followed by truth (92.8%), cooperation (92.8%), courtesy (92.7%), honor (92.0%), loyalty (91.2%), and responsibility (90.6%).

Table 16**SAE**

Value	Percent Indicating Appropriate
Responsibility	87.7
Diligence	83.3
Honesty	83.2
Perseverance	82.5
Commitment	73.2
Truth	65.2
Prudence	63.5
Honor	59.9
Freedom	58.4
Self-respect	55.8
Courtesy	55.5
Respect	54.3
Cooperation	50.0
Trust	49.6
Kindness	48.9
Caring	47.8
Loyalty	46.0
Generosity	43.1
Service	42.0
Tolerance	38.4
Friendship	38.0

Table 17**FFA**

Value	Percent Indicating Appropriate
Honesty	93.4
Truth	92.8
Cooperation	92.8
Courtesy	92.7
Honor	92.0
Loyalty	91.2
Responsibility	90.6
Respect	89.9
Friendship	89.8
Service	89.1
Commitment	89.1
Self-respect	87.7
Generosity	87.6
Trust	86.9
Kindness	83.9
Caring	82.6
Diligence	81.9
Perseverance	81.8
Tolerance	79.1
Prudence	78.9
Freedom	68.8

Other values receiving high levels of agreement for FFA inclusion were respect (89.9%), friendship (89.8%), service (89.1%), commitment (89.1%), self-respect (87.7%), generosity (87.6%), trust (86.9%), kindness (83.9%), caring (82.6%), diligence (81.9%), and perseverance (81.8%). Over two-thirds of the teachers agreed that tolerance (79.1%), prudence (78.9%), and freedom (68.8%) could be appropriately taught using the FFA organization.

Findings Related to Question Four

One of the major objectives of the study was to determine if significant relationships exist between teacher characteristics and the perceptions of teachers as to what values should be taught in the agricultural education curriculum.

In order to determine if there was a relationship between teacher characteristics and teachers' value perceptions, a stepwise multiple regression was performed at the .01 level of significance (see Tables 18-28). Although the a priori level of significance for the study was .05, it was reduced to .01 in order to control for the experimental-wise Type I error which might occur as the result of conducting repeated tests of significance.

Multiple regression was utilized because it could identify the teacher characteristics which account for the variance in the teachers' value perceptions. The stepwise method was selected as a means of having the computer select the most appropriate variables to enter the regression equation. The criterion variables that were used in the multiple regression were: caring, commitment, cooperation, courtesy, diligence, freedom, friendship, generosity, honesty, honor, kindness, loyalty, perseverance, prudence, respect, responsibility, self-respect, service, tolerance, trust and truth. The independent variables for the multiple regression included the teacher characteristics that were described in findings related to question one (number of years teaching; number of years teaching high school agriculture; the number of teachers teaching agricultural courses at their school; gender; age; location of school; number of students attending their high school; number of students enrolled in agriculture courses; percentage of students participating in FFA; percentage of students participating in SAE program; and self-perceived religious level).

Prior to conducting the multiple regression, correlation matrices were examined to determine appropriate regression models. Independent variables which were not significantly related to the dependent variable

were dropped from the regression models. Relationships between the remaining independent variables were also examined to evaluate the potential threat of multicollinearity. A high intercorrelation ($r = .98$) was found between years of teaching and years of teaching agriculture. In two of the regression models, both years of teaching and years of teaching agriculture were found to be significantly related to the criterion variable. For these two models, one of these variables was dropped in order to avoid the potential threat of multicollinearity. In each case, the variable that was dropped was the one that had the lowest relationship with the dependent variable.

These processes resulted in regression models which had from one to five independent variables. The reduction in number of independent variables produced regression models which had 27-133 subjects per independent variable. These ratios of subjects per independent variable were well in excess of the 15 subjects per independent variable as recommended by Stevens (1992). No significant relationships were found between teacher characteristics and their perceptions for two of the values included in the study: (1) honesty and (2) friendship. No regression models were prepared for these two values. Eight of the models had no variables which would enter the regression equation at the .01 level of

significance. These models were for the criterion variables of caring, commitment, cooperation, freedom, loyalty, prudence, responsibility and self-respect.

A plot of the standardized residuals versus the predicted values was constructed for each of the regression models and was examined for violations of the constant variance assumption. No systematic pattern or clustering of the residuals was found. The plots were also reviewed for outliers. No outliers in any of the regressions were detected.

Regression of Teacher Characteristics on Level of Agreement With Value of Courtesy

Results of the regression of teacher characteristics on level of agreement with the value of courtesy are shown in Table 18. Only one variable was able to enter the equation. This variable was number of students enrolled in agriculture courses and had a positive relationship with level of agreement with the value of courtesy ($\beta = .310$). It accounted for 9.6% of the total variance in perception of teaching the value of courtesy in agricultural education.

Table 18

Multiple regression of teacher characteristics on level of agreement with value of courtesy

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.001	.310	3.70	.000
(Constant)	4.60			

$F(1, 129) = 13.69, p = .000, R^2 = .096$

Regression of Teacher Characteristics on Level of Agreement With Value of Diligence

Table 19 illustrates the regression of teacher characteristics on level of agreement with the value of diligence. Only one variable, number of students enrolled in agriculture courses, entered the equation. Its relationship with the dependent variable was positive as indicated by the beta of .271. This variable accounted for 7.3% of the total variance in the teachers' level of agreement with the value of diligence.

Regression of Teacher Characteristics on Level of Agreement With Value of Generosity

Table 20 represents the regression of teacher characteristics on level of agreement with the value of generosity. Only one variable entered

the equation, number of students enrolled in agricultural courses (Beta = .269), and accounted for 7.3% of the total variance in level of agreement.

Table 19

Multiple regression of teacher characteristics on level of agreement with value of diligence

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.001	.271	3.22	.002
(Constant)	4.43			
$F(1, 131) = 10.34, p = .002, R^2 = .073$				

Table 20

Multiple regression of teacher characteristics on level of agreement with value of generosity

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.002	.269	3.17	.002
(Constant)	4.10			
$F(1, 129) = 10.07, p = .002, R^2 = .072$				

**Regression of Teacher Characteristics on
Level of Agreement With Value of Honor**

The results of the regression of teacher characteristics on level of agreement with the value of honor are shown in Table 21. One variable, number of students enrolled in agriculture courses, entered the equation (beta = .255). It accounted for 6.5% of the total variance in the teachers' level of agreement with including the value of honor in the agricultural education curriculum.

Table 21

Multiple regression of teacher characteristics on level of agreement with value of honor

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.001	.255	3.01	.003
(Constant)	4.46			

$F(1, 130) = 9.08, p = .003, R^2 = .065$

**Regression of Teacher Characteristics on
Level of Agreement With Value of Kindness**

Table 22 presents the regression of teacher characteristics on level of agreement with the value of kindness. Only one variable was able to enter the equation, number of students enrolled in agriculture courses

(beta = .312). It accounted for 9.7% of the total variance in the level of agreement with including kindness in the agricultural education curriculum.

Table 22

Multiple regression of teacher characteristics on level of agreement with value of kindness

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.002	.312	3.73	.000
(Constant)	4.22			
E(1, 129) = 13.92, $p = .000$, $R^2 = .097$				

Regression of Teacher Characteristics on
Level of Agreement With Value of Perseverance

Table 23 illustrates the regression of teacher characteristics on the level of agreement with the value of perseverance. Only one variable, number of students enrolled in agriculture courses, was able to enter the equation (beta = .273). It accounted for 7.5% of the total variance in the teachers' level of agreement for inclusion of the value of perseverance in agricultural education.

Table 23

Multiple regression of teacher characteristics on level of agreement with value of perseverance

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.001	.273	3.23	.002
(Constant)	4.37			
$F(1, 129) = 10.41, p = .002, R^2 = .075$				

Regression of Teacher Characteristics on Level of Agreement With Value of Respect

Table 24 represents the regression of teacher characteristics on level of agreement with the value of respect. The number of students attending school accounted for 5.4% of the total variance with a Beta of .233. It was the only variable that entered the equation.

Table 24

Multiple regression of teacher characteristics on level of agreement with value of respect

Value	B	Beta	t	sig t
Number of students attending school	.001	.233	2.75	.007
(Constant)	4.56			
$F(1, 131) = 7.55, p = .007, R^2 = .054$				

**Regression of Teacher Characteristics on
Level of Agreement With Value of Service**

Self-perceived religious level (beta = .309) was the only teacher characteristic which entered into the equation for the regression of teacher characteristics on level of agreement with the value of service (Table 25). This variable accounted for 9.5% of the total variance in the level of agreement.

Table 25

Multiple regression of teacher characteristics on level of agreement with value of service

Value	B	Beta	t	sig t
Self-perceived religious level	.247	.309	3.72	.000
(Constant)	3.45			

$F(1, 131) = 13.83, p = .000, R^2 = .095$

**Regression of Teacher Characteristics on
Level of Agreement With Value of Tolerance**

Table 26 shows the regression of teacher characteristics on level of agreement with the value of tolerance. One variable, number of students enrolled in agriculture courses, entered the equation (Beta = .323). It accounted for 10.4% of the total variance in the teachers' level of

agreement with including tolerance in the agricultural education curriculum.

Table 26

Multiple regression of teacher characteristics on level of agreement with value of tolerance

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.002	.323	3.90	.000
(Constant)	4.11			
$F(1, 131) = 15.22, p = .000, R^2 = .104$				

Regression of Teacher Characteristics on Level of Agreement With Value of Trust

The regression of teacher characteristics on level of agreement with the value of trust is illustrated in Table 27. Only one variable, number of students enrolled in agriculture courses, was able to enter the equation (beta = .264). It accounted for 6.9% of the total variance in the teachers' level of agreement with including the value of trust in the agricultural education curriculum.

Table 27

Multiple regression of teacher characteristics on level of agreement with value of trust

Value	B	Beta	t	sig t
Number of students enrolled in agriculture courses	.001	.264	3.12	.002
(Constant)	4.29			

$F(1, 130) = 9.76, p = .002, R^2 = .069$

Regression of Teacher Characteristics on Level of Agreement With Value of Truth

When teacher characteristics were regressed on the teachers' level of agreement with the value of truth, only one variable was able to enter the equation (Table 28). It was self-perceived religious level (beta = .277) which accounted for 7.7% of the total variance in the teachers' level of agreement for having the value of truth as part of the agricultural education curriculum.

Table 28

Multiple regression of teacher characteristics on level of agreement with value of truth

Value	B	Beta	t	sig t
Self-perceived religious level	.172	.277	3.31	.001
(Constant)	3.98			

$F(1, 132) = 10.95, p = .001, R^2 = .077$

Findings Related to Question Five

As a means of determining if there was a relationship between teacher behavior and the values they perceived should be taught to students, specific statements measuring the teachers' perception of their own values were utilized. The teachers responded to the statements by indicating their level of agreement, utilizing a scale where 5 = strongly agree and 1 = strongly disagree. Correlation coefficients were then calculated between the values teachers perceived they exhibited and the corresponding values they thought should be taught to students. Results of these coefficient determinations are included in Tables 29-36. (See Appendix F for frequency tables illustrating responses by category for each of the teacher behaviors.)

**Relationship Between Teacher Behavior and Level of Agreement
With Inclusion of Values of Honesty and Truth in Curriculum**

In order to measure the teachers' perception of their own honesty, they were asked to respond to the question "When working with students and fellow teachers, I always strive to give accurate information" (Table 29). There was a significant, positive relationship between teacher response and level of agreement with honesty ($r=.28$) and truth ($r=.24$) being included in the curriculum for students.

Table 29

Correlation between teacher's response to "When working with students and fellow teachers, I always strive to give accurate information" and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Honesty
Honesty	.28**
Truth	.24**

**** = significant at .01**

**Relationship Between Teacher Behavior and Level of Agreement
With Inclusion of Values of Kindness and Caring in Curriculum**

The statement, "I could list numerous examples where I have gone the 'extra mile' to help a student in the last three months," was used as a

measure of the level of teacher compassion. A positive, significant relationship was found between this variable and the teacher's level of agreement with including kindness in the curriculum ($r = .27$) (Table 30). However, no significant relationship was found between teacher compassion and teacher's level of agreement with including the value of caring in the agricultural education curriculum.

Table 30

Correlation between teacher's response to "I could list numerous examples where I have gone the 'extra mile' " and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Compassion
Caring	.17
Kindness	.27**

* = significant at .05

Relationship Between Teacher Behavior and Level of Agreement With Inclusion of Values of Trust and Loyalty in Curriculum

As a means of determining the teachers' perceived level of confidentiality, teachers were asked to indicate their level of agreement with the statement "I consciously keep confidential matters told to me by a co-worker to myself." A positive, significant relationship was found

between this response and the level of agreement with including the values of trust ($r = .22$) and loyalty ($r = .18$) in the curriculum (Table 31).

Table 31

Correlation between teacher's response to "I consciously keep confidential matters told to me by a co-worker to myself" and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Confidentiality
Trust	.22*
Loyalty	.18*

* = significant at .05

Relationship Between Teacher Behavior and Level of Agreement With Inclusion of Values of Responsibility, Perseverance and Diligence in Curriculum

Teachers were asked to indicate their level of agreement with the statement "I always complete assignments that I accept" (Table 32).

Their level of agreement with the statement was used as a measure of their dedication. There was a positive, significant relationship between teacher dedication and the teacher's level of agreement with including diligence ($r = .26$) and perseverance ($r = .24$) in the student curriculum.

However, there was no significant relationship found between teacher

dedication and the teacher's level of agreement with including the value of responsibility in the student curriculum.

Table 32

Correlation between teacher's response to "I always complete assignments that I accept" and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Dedication
Diligence	.26**
Perseverance	.24**
Responsibility	.15

**** = significant at .01**

Relationship Between Teacher Behavior and Level of Agreement With Inclusion of the Value of Cooperation in the Curriculum

The statement "I work well with my fellow teachers" was used to measure the teacher's level of cooperation (Table 33). A significant, positive relationship was found between teacher cooperation and teachers' level of agreement with inclusion of the value of cooperation ($r = .17$) in the agricultural education curriculum.

Table 33

Correlation between teacher's response to "I work well with my fellow teachers" and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Cooperation
Cooperation	.17*

*** = significant at .05**

**Relationship Between Teacher Behavior and Level of Agreement
With Inclusion of Values of Tolerance and Respect in Curriculum**

Teachers were asked to indicate their level of agreement with the following statement "I try to see the other side of situations in which I find myself." Their level of agreement was used as a measure of respect for other individuals (Table 34). There was a significant, positive relationship between their response to this statement and their level of agreement with the inclusion into the agricultural education curriculum of the values of tolerance ($r = .28$) and respect ($r = .19$).

Table 34

Correlation between teacher's response to "I try to see the other side of situations in which I find myself" and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Respect
Tolerance	.28**
Respect	.19*

*** = significant at .05**

**** = significant at .01**

Relationship Between Teacher Behavior and Level of Agreement With Inclusion of Value of Courtesy in Curriculum

The teacher's level of agreement with the statement "When working with students and co-workers, I keep my temper under control" was used as a measure of the teacher's courtesy. Table 35 indicates that a significant, positive relationship ($r = .23$) was found between teachers' level of agreement with this statement and their level of agreement with inclusion of courtesy in the student curriculum.

Table 35

Correlation between teacher's response to "When working with students and co-workers, I keep my temper under control " and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Courtesy
Courtesy	.23**

**** = significant at .01**

Relationship Between Teacher Behavior and Level of Agreement With Inclusion of Value of Tolerance in Curriculum

The statement "I dislike people who are ignorant of agriculture" was used to measure the teacher's perceived level of tolerance. Table 36 reveals there was no significant relationship between agreement with this statement and the teacher's level of agreement with inclusion of tolerance in the agricultural education curriculum.

Table 36

Correlation between teacher's response to "I dislike people who are ignorant of agriculture " and variables associated with values teachers perceived should be taught to students.

Variable	Implicit Teaching of Tolerance
Tolerance	.11

*** = significant at .05**

**** = significant at .01**

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The major purposes of this study were to: (1) determine perceptions of agricultural education teachers nationwide as to what values should be taught to students enrolled in high school agriscience courses; (2) identify in which component of the agricultural education program should these values be taught; and (3) identify if differences exist in perceptions of the teachers according to selected demographic variables and teacher behavior.

As a means of accomplishing the purpose of the study, answers to the following questions were sought:

1. What are the characteristics of agriscience teachers in the United States in regard to the following variables: (a) number of years teaching; (b) number of years teaching high school agriculture; (c) the number of teachers teaching agricultural courses at their school; (d) gender; (e) age; (f) ethnicity; (g) location of school; (h) number of students attending their high school; (i) number of students enrolled in agriculture courses; (j)

- percentage of students participating in FFA; (k) percentage of students participating in SAE program; and (l) self-perceived religious level?
2. What are agricultural education teachers' perceptions as to values that should be taught in a high school agriscience program?
 3. In which of the four components of an agriscience program (classroom, laboratory, supervised agriculture experience program, or FFA) do agricultural education teachers perceive these values should be taught?
 4. What is the relationship between the characteristics identified in question one and the perceptions of teachers as to what values should be taught in the agricultural education curriculum?
 5. Is there a relationship between teacher behavior and the values they think should be taught to students?

Procedure

The target population for this study was all secondary agricultural teachers who taught in public secondary schools in the United States during the 1997-98 school year. The list of individuals in the target

population was taken from the Agricultural Educators Directory (Henry, 1997). A mailed questionnaire, prepared by the researcher using the Total Design Method (Dillman, 1978), was used as the data collection instrument. A review panel of agricultural educators was used to validate the instrument. It was pilot tested by a group of cooperating agriscience teachers in Areas I and II of Texas. A proportional, random sample of 200 teachers was selected from the Agricultural Educators Directory and served as the sample for the population. The sample was also stratified by state. Individuals selected for the sample were surveyed starting the first week of September, 1997, and continued until the second week of October, 1997. One hundred forty-one teachers responded to the survey for a return rate of 70.5%. Three of the returned instruments were unusable.

Survey instrument responses were entered and used to construct data files. Statistical analysis of the data files was completed using SPSS for the Macintosh. Descriptive statistics were used to summarize the data pertaining to: (a) the demographic background of the teachers, (b) teacher responses concerning values to be taught, and (c) program areas where the values can be taught. Multiple regression analysis was used to determine if significant differences existed on teacher responses according to: (a) number of years teaching; (b) number of years teaching agriculture;

(c) the number of teachers per program; (d) age; (e) gender; (f) school location; (g) number of students in the high school; (h) number of students in the agricultural education program; (i) percentage of students active in FFA; (j) number of students with SAE programs, and (k) self-perceived religious level. Correlation coefficients were utilized to determine if significant relationships existed between teacher behavior and values the teachers perceived should be taught to students in agricultural education.

Summary of Findings

Characteristics of Respondents

The mean years of teaching experience for the respondents was 14.8 years, and they had taught agricultural education for an average of 14.0 years. A majority of the teachers were in single teacher departments, although 47% were in programs with more than one teacher. Over three-fourths (87%) of the respondents were male. The average age of the teachers was 41 with the youngest being 24 and the oldest being 65. The majority (93%) of the respondents were white/non-Hispanic.

Most of the teachers taught in small communities with populations less than 5,000. Average school size was 750 students with 136 students enrolled in agriculture courses. The mean percentage of agriculture

students participating in the FFA organization was 72. Sixty-one percent of the students in the teachers' programs participated in SAE programs.

In order to get a measure of how religious the teachers were, they were asked their level of agreement with the statement "I consider myself a religious person." A large majority (85%) of the teachers agreed or strongly agreed with the statement.

Agreement with Values

Teachers were given 21 values and asked to indicate their level of agreement as to whether these values should be taught in the agricultural education program (based on a scale of 5 = strongly agree and 1 = strongly disagree). There was strong (4.0 or higher) agreement that all 21 values should be taught in the agricultural education curriculum. Values receiving a level of agreement higher than 4.5 were responsibility (4.86), honesty (4.80), courtesy (4.79), cooperation (4.73), truth (4.70), respect (4.70), diligence (4.65), honor (4.64), self-respect (4.61), perseverance (4.60), commitment (4.57), and loyalty (4.55). Other values ranked in order of level of agreement were prudence (4.51), trust (4.50), kindness (4.50), caring (4.50), service (4.49), tolerance (4.41), friendship (4.40), generosity (4.35), freedom (4.12).

Where Values Should Be Taught

The teachers were asked which component of the agricultural education program (Classroom, Laboratory, SAE, or FFA) would serve as an appropriate medium for teaching each of the values. Responses were recorded according to the percentage of teachers who indicated that the component was an appropriate place for the value to be taught.

Values Appropriate as Part of the Classroom Component

Three of the values were perceived by more than 90% of the teachers to be appropriately taught in the classroom setting. Courtesy (96.4%), respect (91.3%), and honesty (91.2%) were the values seen to be best suited for classroom instruction. Other values receiving high ratings for the classroom component were truth (87.7%), responsibility (86.2%), kindness (86.1%), caring (84.1%), honor (83.9%), self-respect (81.2%), cooperation (80.4%) and prudence (80.3%). Over seventy percent of the teachers indicated that tolerance (79.7%), trust (75.2%), perseverance (74.5%), friendship (72.5%), loyalty (72.3%), diligence (71.7%) and commitment (70.3%) were values that could be taught in the classroom. Although they ranked lowest, a majority of the teachers indicated that

generosity (65.7%), service (60.1%), and freedom (54.7%) were appropriate for the classroom setting.

Values Appropriate as Part of the Laboratory Component

The laboratory component was perceived by the teachers as being a suitable mode of instruction for diligence (83.3%), responsibility (79.7%), cooperation (79.0%), courtesy (77.4%), honesty (75.9%). Fewer teachers agreed that respect (66.7%), perseverance (65%), prudence (65%), kindness (63.5%), and truth (61.6%) fit into laboratory instruction. A majority of the teachers also agreed that trust (59.9%), honor (59.1%), caring (52.9%), and self-respect (52.9%) could be taught in the laboratory. Those values deemed less appropriate for laboratory instruction were loyalty (47.4%), commitment (47.1%), friendship (46.0%), generosity (44.5%), tolerance (42.8%), service (37%) and freedom (34.3%).

Values Appropriate as Part of the SAE Component

The top four values seen as appropriate for the SAE component by the teachers were responsibility (87.7%), diligence (83.3%), honesty (83.2%), and perseverance (82.5%). Commitment was deemed appropriate by 73.2% of the respondents. Others perceived by a majority of teachers as

suitable for SAE were truth (65.2%), prudence (63.5%), honor (59.9%), freedom (58.4%), self-respect (55.8%), courtesy (55.5%), and respect (54.3%). Values seen as less appropriate were cooperation (50.0%), trust (49.6%), kindness (48.9%), caring (47.8%), loyalty (46.0%), generosity (43.1%), service (42%), tolerance (38.4%), and friendship (38.0%).

Values Appropriate as Part of the FFA Component

Many of the values were deemed as appropriate for being taught in the FFA component of agricultural education. The value receiving the most agreement by the teachers for inclusion in FFA was honesty (93.4%) closely followed by truth (92.8%), cooperation (92.8%), courtesy (92.7%), honor (92.0%), loyalty (91.2%), and responsibility (90.6%). Other values receiving high levels of agreement for FFA inclusion were respect (89.9%), friendship (89.8%), service (89.1%), commitment (89.1%), self-respect (87.7%), generosity (87.6%), trust (86.9%), kindness (83.9%), caring (82.6%), diligence (81.9%), and perseverance (81.8%). Over two-thirds of the teachers agreed that tolerance (79.1%), prudence (78.9%), and freedom (68.8%) could be appropriately taught using the FFA organization.

Relationships Between Teacher Characteristics and Perceptions of Teachers as to What Values Should be Taught

Multiple regression was utilized to determine relationships between teacher characteristics and teacher value perceptions. The analyses produced 11 regression equations which accounted for variances in teacher value perceptions. No significant relationships were found between any of the teacher characteristics and ten of the values: caring, commitment, cooperation, freedom, friendship, honesty, loyalty, prudence, responsibility, and self-respect. The amount of variance being accounted for in teacher value perceptions by teacher characteristics in the 11 regression equations ranged from 5.4% to 10.4%.

Only seven of the characteristics (number of students enrolled in agriculture courses, self-perceived religious level, number of students attending school, percentage of students participating in SAE, number of years teaching agriculture, age of respondent, and number of agriculture teachers in department) were significantly related to the teacher value perceptions. The only three teacher characteristics found which explained variance in the teacher value perceptions were number of students enrolled in agriculture (found in eight of the equations), followed by self-perceived religious level (found in two of the equations), and number of

students attending school (found in one of the equations). All of the relationships for these four characteristics were positive, indicating that as the value of the teacher characteristic increased, so did the level of agreement concerning use of a specific value in the student curriculum.

Number of years teaching, number of years teaching agriculture, gender, school location, percentage of FFA members, number of teachers in the department, age, and percentage of students participating in SAE programs were not significantly related to teacher value perceptions in any of the equations. None of the teacher characteristics were significantly related to teacher value perceptions for the values of caring, commitment, cooperation, freedom, friendship, honesty, loyalty, prudence, responsibility, and self-respect. Ethnicity was dropped from the equation as it was not significantly related to teacher value perceptions (Note: This could be because of lack of variance in the sample.)

Relationships Between Selected Teacher Behavior and Inclusion of Values in Curriculum

Correlations were examined between teachers' perceived behaviors and their level of agreement with inclusion of specific values in the curriculum of agricultural education. Significant, positive relationships

were found between the following: (a) teacher honesty and incorporating honesty ($r = .28$) and truth ($r = .24$) in the curriculum, (b) teacher compassion and incorporating kindness in the curriculum ($r = .27$), (c) teacher confidentiality and incorporating trust ($r = .22$) and loyalty ($r = .18$) in the curriculum, (d) teacher dedication and incorporating diligence ($r = .26$) and perseverance ($r = .24$) in the curriculum, (e) teacher cooperation and inclusion of cooperation in curriculum ($r = .17$), (f) teacher respect and teaching tolerance ($r = .28$) and respect in the curriculum ($r = .19$), and (g) teacher courtesy and teaching courtesy ($r = .23$).

No significant relationships were found between the following: (a) teacher compassion and inclusion of caring in the curriculum, (b) teacher dedication and inclusion of responsibility in the curriculum, and (c) teacher tolerance and inclusion of tolerance in the curriculum.

Conclusions

The following conclusions are based on interpretations of data presented in the study and are restricted to the populations surveyed. They also are subject to the limitations outlined in Chapter I of the study. The conclusions are as follows:

1. Most of the agriculture teachers in the United States who are currently teaching (1997-98) are middle-aged, white males who have taught agriculture for a number of years (14 on the average). Most of them teach in rural communities where they are the only agriculture teacher.

2. The average school size where these agriculture teachers teach is small (average enrollment is 750 students). Enrollments in agriculture also represent a significant proportion of the total school population (nearly 20% of the students in these schools enroll in agriculture courses).

3. There is a high percentage of membership in the FFA and a relatively high level of participation in SAE programs by students of these teachers. FFA membership was over 70%, and participation in SAE programs was 60%.

4. A large majority of agriculture teachers in the U.S. consider themselves to be religious. This was evidenced by the fact that 85% of the teachers in the study agreed or strongly agreed that they were religious people.

5. As a group, agriculture teachers in the U.S. agree that the 21 values identified in this study are important characteristics which should be taught to young people studying high school agriculture. They perceive

the most important values to be responsibility, honesty, courtesy, and cooperation. The least important values they perceive to be taught are friendship, generosity, and freedom.

6. Agriculture teachers perceive that the most appropriate component for teaching many of the 21 values is the FFA organization. This was evidenced by the fact that over three-fourths of the teachers thought all of the values (except freedom) could be appropriately taught using the FFA organization. Those values which the teachers see as most appropriate for the FFA are honesty, courtesy, honor, cooperation, truth, loyalty, and responsibility.

7. Although agriculture teachers perceive that the FFA organization is the best component for teaching many of the values in agricultural education, they also perceive that a number of the values can be taught in the classroom, laboratory, and SAE.

8. The laboratory component is perceived by agriculture teachers as the least desirable component in which instruction about values can occur. They particularly do not view the laboratory as an appropriate place for teaching the values of loyalty, commitment, friendship, generosity, tolerance, service and freedom. The most appropriate values they see as

teachable in the laboratory are diligence, responsibility, cooperation, courtesy and honesty.

9. Agriculture teachers perceive the classroom as an effective place to teach courtesy, respect, honesty. Values which they perceive to be best taught elsewhere are generosity, service, and freedom.

10. Responsibility, diligence, honesty, and perseverance are seen by agriculture teachers as the most appropriate values to be taught in the SAE program. However, cooperation, trust, kindness, caring, loyalty, generosity, service, tolerance, and friendship were seen as the least teachable values in SAE.

11. Agriculture teachers tend to agree on the importance of the 21 values regardless of teacher characteristics. This was evidenced by the small amount of variance that was explained in level of agreement with the values by teacher characteristic. (It is important to note, however that when differences in agreement with the values occurred, it was due to size of agriculture enrollment, self-perceived religious level, and size of high school. Teachers who had larger agriculture classes, or taught in larger schools or had a higher perceived religious level, tended to have higher levels of agreement with the values than teachers with smaller agriculture

classes or teachers who taught in smaller schools, or teachers with lower perceived religious levels.)

12. In general, teachers who perceived that they exhibited a certain behavior tended to have a positive perception toward including that value (or a related one) into the agricultural education curriculum.

Recommendations

The following recommendations are made by the investigator as a result of having conducted this study:

1. Curriculum specialists in agricultural education should be enlisted to examine existing agriscience curriculum for possible inclusion of value education. This is based on the finding that a majority of agriscience instructors in the United States agree that value education should be part of the agriscience curriculum.

2. As a beginning step, these curriculum specialists should design educational activities which enhance development of the 21 values included in this study, most notably the values of responsibility, honesty, courtesy, and respect. The specialists should also review the findings of this study which identify the most appropriate component of agricultural education for teaching these values.

3. The FFA and its related activities should continue to serve as a vehicle for value education. Agriscience teachers obviously believe it is the most appropriate component of agricultural education for teaching values. Educational leaders need to be made aware of the opportunities the FFA makes available for character development as it is an integral part of the instructional program in agriculture.

4. Additional studies using these values should be conducted on populations of various stakeholders who have an interest in agricultural education to determine if they exhibit the same perceptions as agriscience teachers. Potential populations include parents, employers, and school administrators.

5. Future studies should be conducted to determine if additional values, beyond those included in this study, should be part of the agricultural education curriculum. Additional research should also be conducted to determine specific methods of instruction and/or educational activities which are most appropriate for value education.

6. This study should be replicated, perhaps on a state-wide basis, to determine if ethnic and cultural diversities of individual states influence what values should be included in the agricultural education curriculum.

7. Studies similar to this one should be conducted for other areas of the high school curriculum to verify the findings of this study.

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APPENDIX A
FORMULA FOR DETERMINING SAMPLE SIZE

FORMULA FOR ESTIMATING SAMPLE SIZE

Sampling for proportions

$$n_o = \frac{t^2 pq}{d^2}$$

where –

d = acceptable margin of error for the proportion being estimated (degree of precision)

t = risk willing to take that actual margin of error may exceed acceptable margin of error

p = "estimated" proportion of the elements in the population in the category of interest

$$q = 1-p$$

If $\frac{n_o}{N} > .05$, use finite population correction to adjust estimated sample size as follows:

$$n = \frac{n_o}{1 + \frac{n_o}{N}}$$

ACTUAL FIGURES USED TO DETERMINE SAMPLE SIZE

$$n_o = \frac{t^2 pq}{d^2}$$

- a. the acceptable margin of error was selected to be + or - 5% from the proportion in the population (d)
- b. agreed to take a risk of 1 in 10 (90% confidence level) that actual errors may exceed the acceptable margin of error. *This level was selected instead of 95% because it was felt that stratification of the sample would allow for a higher risk.*
(t=1.65)
- c. it was estimated that the scores would be evenly distributed on the 5-point scale. Therefore, the percentage of scores for each point on the scale would be 20% or .20. (p = .20; therefore q = .80)

$$n_o = \frac{(1.65)^2 (.20) (.80)}{(.05)^2} = 175 \text{ (rounded up from 174.24)}$$

Since $\frac{n_o}{N}$ was less than .05, there was no correction to adjust the sample size. However, a sample of 200 was used instead of 175 because past national surveys of this population had indicated low returns.

· APPENDIX B
MAIL QUESTIONNAIRE

Please return to:
Department of Agricultural
Education & Communications
Texas Tech University
Box 42131
Lubbock, Texas 79409-2131
Phone 806-742-2816
FAX 806-742-2880

THANK YOU

Part I - Demographics

A. Teacher Information

Please circle or provide the best response for the questions below.

1. How many years have you been teaching?

_____ YEARS
2. How many years have you been teaching high school agrics?

_____ YEARS
3. How many teachers, besides you, teach agricultural courses at your school?

_____ TEACHERS
4. What is your gender?

a. FEMALE
b. MALE
5. What is your age?

_____ AGE
6. What is your ethnicity?

a. AFRICAN-AMERICAN
b. AMERICAN-INDIAN
c. ASIAN
d. HISPANIC
e. WHITE, non-Hispanic
f. OTHER _____

PART III - A Few Questions About Yourself

Instructions: Using the scale below, circle the number for each question that best represents your response.

- SA = STRONGLY AGREE
A = AGREE
U = DON'T KNOW/NOT SURE
D = DISAGREE
SD = STRONGLY DISAGREE

	Agreement				
	SA	A	U	D	SD
34. When working with students and fellow teachers, I always strive to give accurate information.					
35. I can list numerous examples where I have "gone the extra mile" to help a student in the last three months.					
36. I consciously keep confidential matters told to me by a co-worker to myself.					
37. I always complete assignments that I accept.					
38. I work well with my fellow teachers (both agriculture and non-agriculture)					
39. I consciously incorporate the teaching of values and morals into the agri-science curriculum.					
40. I try to see the other side of situations in which I find myself.					
41. When working with students and co-workers, I keep my temper under control.					
42. I consider myself a religious person.					
43. I dislike people who are ignorant of agriculture.					

25. **PRUDENCE** – Showing self-discipline and good judgment
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
26. **RESPECT** – Holding others in high regard; showing deference
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
27. **RESPONSIBILITY** – Being accountable for one's actions
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
28. **SELF-RESPECT** – proper respect for oneself and his/her position in society
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
29. **SERVICE** – Contributing to the welfare of others
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
30. **TOLERANCE** – Indulgence or sympathy for beliefs or practices that differ or conflict with your own
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
31. **TRUST** – Placing confidence in other students
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
32. **TRUTH** – Being sincere in action and character
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA
- Other values that should be taught (please list)
33. _____
Agreement	Component Area			
SA A U D SD	CLS	LAB	SAE	FFA

B. School Information

7. My school is located in a:
- LARGE CITY (MORE THAN 50,000)
 - URBAN CITY (5,000-50,000)
 - SMALL TOWN (500-4,999)
 - RURAL AREA (LESS THAN 500)
8. How many students are in your high school?
- _____ STUDENTS
9. How many students does your school have enrolled in agricultural courses?
- _____ AG STUDENTS
10. What percentage of students enrolled in your agricultural courses are FFA members?
- _____ PERCENTAGE OF FFA MEMBERS
11. What percentage of students enrolled in your agricultural courses have SAE programs?
- _____ PERCENTAGE OF STUDENTS WITH SAE PROGRAMS

Please continue to next section ➡

Part II - Values to Be Taught

Instructions: For the following questions, circle the corresponding letters to indicate your amount of agreement with the following statements. If you agree that the following values should be taught in agricultural education, circle which component(s) should focus on its implementation.

SA = STRONGLY AGREE it should be taught
 A = AGREE it should be taught
 U = UNCERTAIN if it should be taught
 D = DISAGREE that it should be taught
 SD = STRONGLY DISAGREE that it should be taught

CLS = Classroom Instruction
 LAB = Laboratory Instruction
 SAE = Supervised Agricultural Experience Program
 FFA = National Student Organization

Example: VIRTUE - Exhibiting commendable qualities or traits

Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA

12. CARING - Exhibiting concern for other students and classmates
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
13. COMMITMENT - Obliging oneself to a cause
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
14. COOPERATION - Ability to work with other students on activities & projects
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
15. COURTESY - Expressing courteous behavior to the teacher and other students
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA

16. DILIGENCE - Ability to see projects and activities to completion
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
17. FREEDOM - quality or state of being free to choose and act
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
18. FRIENDSHIP - Ability to sustain the state of being friends with other students
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
19. GENEROSITY - To be giving of oneself
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
20. HONESTY - Ability to tell and exhibit the truth
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
21. HONOR - To live up to set standards; to treat others with honor
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
22. KINDNESS - Being helpful and solicitous to other students
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
23. LOYALTY - Showing allegiance to a cause or fellow student
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA
24. PERSEVERANCE - To be steadfast in endeavors
Agreement		Component Area			
SA	A	U	D	SD	
					CLS LAB SAE FFA

APPENDIX C
COVER LETTER

Department of Agricultural Education
and Communications

Box 42131
Lubbock, TX 79409-2131
Phone: (806) 742-2816
FAX: (806) 742-2880

September 2, 1997

To Selected Agricultural Science Instructors:

You have been selected to participate in a national study to evaluate the teaching of values in the agricultural education classroom. This study is designed to provide data to further improve moral education and possible the development of a curriculum to enhance your already existing instruction.

Please answer each question on the enclosed questionnaire and return it in the self-addressed stamped envelope as soon as possible. Your participation in this study is completely voluntary, however, we would greatly appreciate your response in order to make sure our assessment of the teaching of values in the agricultural education classroom accurately represents the perceptions of those participating in the study.

You will note a code number in the upper right corner of the survey. This is only used for follow-up of nonrespondents to assure that they receive this mailing. We can assure you that your individual responses to the questionnaire will remain confidential and your name will not be linked to the responses you provide.

Again, we appreciate your time and support. Any information obtained through this study will be used in an attempt to improve the agricultural education curriculum for future students.

Sincerely,

Jacqui Lockaby
Doctoral Candidate

Paul R. Vaughn
Professor & Chair

An EEO / Affirmative Action Institution

APPENDIX D
REMINDER POSTCARD

Dear Agricultural Educator,

This is just a reminder regarding the survey you received concerning Teaching Values in Agricultural Education. It is extremely important to the success of this study that you complete and return the survey. Your response will be a valuable asset to future agricultural education curriculum projects.

If you have already returned the survey, please disregard this reminder. If you have misplaced the original survey, please contact me at (806) 742-2816 for an additional copy. Thank you for your valuable time.

Jacqui Lockaby
Doctoral Candidate
Texas Tech University

APPENDIX E
SECOND FOLLOW-UP LETTER

Department of Agricultural Education
and Communications

Box 42131
Lubbock, TX 79409-2131
Phone: (806) 742-2816
FAX: (806) 742-2880

September 22, 1997

To Selected Agricultural Science Instructors:

Approximately three weeks ago you should have received a questionnaire regarding the teaching of values in the agricultural education classroom. We are sending the questionnaire again to those whose response we have not received. If you have not mailed the questionnaire, we would greatly appreciate it if you would take a few to minutes to provide the information we are requesting. Please answer each question and return the questionnaire by **October 3rd** in the self-addressed, stamped envelope provided.

Your participation in this study is completely voluntary, however, we would greatly appreciate your response in order to make sure our assessment of the teaching of values in the agricultural education classroom accurately represents the perceptions of those chosen to participate in the study.

Again, we appreciate your time and support. Any information obtained through this study will be used in an attempt to improve the agricultural education curriculum for future students.

Sincerely,

Jacqui Lockaby
Doctoral Candidate

Paul R. Vaughn
Professor & Chair

An EEO / Affirmative Action Institution

APPENDIX F

TABLES ILLUSTRATING RESPONSES FOR TEACHER BEHAVIOR

RESPONSES TO PART THREE OF QUESTIONNAIRE TEACHER BEHAVIOR

Table 37

Response to statement "When working with students and fellow teachers, I always strive to give accurate information."

Amount of Agreement	Frequency	Percentage
Strongly Agree	105	76.1
Agree	33	23.9
Uncertain	0	0
Disagree	0	0
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 38

Response to statement "I can list numerous examples where I have 'gone the extra mile' to help a student in the last three months."

Amount of Agreement	Frequency	Percentage
Strongly Agree	88	63.8
Agree	49	35.5
Uncertain	0	0.0
Disagree	1	.7
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 39

Response to statement "I consciously keep confidential matters told to me by a co-worker to myself."

Amount of Agreement	Frequency	Percentage
Strongly Agree	87	63.0
Agree	49	35.5
Uncertain	2	1.4
Disagree	0	0.0
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 40

Response to statement "I always complete assignments that I accept."

Amount of Agreement	Frequency	Percentage
Strongly Agree	53	38.4
Agree	81	58.7
Uncertain	3	2.2
Disagree	1	.7
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 41

Response to statement “I work well with my fellow teachers.”

Amount of Agreement	Frequency	Percentage
Strongly Agree	66	48.2
Agree	68	49.6
Uncertain	1	.7
Disagree	2	1.5
Strongly Disagree	0	0.0
TOTAL	137^a	100.0

^aN = 138, one missing response

Table 42

Response to statement “I consciously incorporate the teaching of values and morals into the agri-science curriculum.”

Amount of Agreement	Frequency	Percentage
Strongly Agree	74	53.6
Agree	54	39.1
Uncertain	8	5.8
Disagree	2	1.4
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 43

Response to statement "I try to see the other side of situations in which I find myself."

Amount of Agreement	Frequency	Percentage
Strongly Agree	47	34.1
Agree	85	61.6
Uncertain	6	4.3
Disagree	0	0.0
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 44

Response to statement "When working with students and co-workers, I keep my temper under control."

Amount of Agreement	Frequency	Percentage
Strongly Agree	34	24.6
Agree	89	64.5
Uncertain	12	8.7
Disagree	3	2.2
Strongly Disagree	0	0.0
TOTAL	138	100.0

Table 45

Response to statement "I dislike people who are ignorant of agriculture."		
Amount of Agreement	Frequency	Percentage
Strongly Agree	41	29.7
Agree	70	50.7
Uncertain	14	10.1
Disagree	9	6.5
Strongly Disagree	4	2.9
TOTAL	138	100.0