

Perceptions of Agricultural Education Instructors of the Relationship of Shooting Sports in Agricultural Education

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As agricultural education has diversified to include courses and units on natural resource management, skill development activities and competitions related to this area have become more common for students and FFA members. This study was designed to assess the relationship between shooting sports and the agricultural education program. More specifically, this study sought to describe agricultural education instructors who sponsor a shooting sports program through the FFA and determine their perceptions related to their students' participation in shooting sports activities. Agricultural education instructors agreed that shooting sports is a valuable activity to the agricultural education program. Forty percent of the respondents indicated that curriculum related to fish and wildlife management was most related to shooting sports and firearm safety. Recommendations resulting from this study include future research about understanding the relationship between agriculture education and shooting sports.

Introduction/Theoretical Framework

During the last quarter century, agricultural education in secondary schools has changed in many ways. Some of the greatest changes have been in the areas of course offerings and content of courses taught. Even the name of the program changed from *Vocational Agriculture* to *Agricultural Education*. Many of the changes in curriculum were ushered in by the Committee on Agricultural Education in Secondary Schools, a task force formed by the Board on Agriculture of the National Research Council (1988). In their report, *Understanding Agriculture New Directions for Education*, the committee recommended “the subject matter of instruction about agriculture and instruction in agriculture must be broadened” (National Research Council, p. 6). The Committee provided suggestions for areas in which to broaden the curriculum. Their report noted that changes in curriculum should encompass sciences basic to agriculture, food and natural resources.

The call for including subjects related to natural resources in the secondary agriculture curriculum was also made in *The National*

Strategic Plan and Action Agenda for Agricultural Education (The National Council for Agricultural Education, 2000). The mission statement for agricultural education included in the document states “Agricultural Education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources systems” (The National Council for Agricultural Education, p. 3). In fact, the phrase natural resources was also included in the vision statement and in each of the four goals included in the strategic plan.

Clearly, the teaching of subjects related to natural resources is viewed as a valuable component of the agricultural education curriculum. Currently, states such as Missouri, Oklahoma, Texas, Georgia, Wisconsin, and others have agricultural education courses and Career Development Events that focus upon natural resources. Content for such courses includes subjects such as those found in Georgia which include: wildlife management, wildlife management practices, identification of wildlife and fish species, hunting, fishing, and trapping, concepts of wildlife ecology, concepts of

wildlife biology, wildlife damage management, population dynamics, and diseases and parasites of wildlife (Georgia Agriculture Education, 2006). Depth of coverage and length of content varies from state-to-state; however, many similarities among these courses do exist. Commonly, the importance of wildlife and habitat management is addressed and within such units the topic of wildlife and habitat management is frequently included. Lessons on hunting wildlife species to help thin populations within a habitat are found in several of these units on wildlife management. A natural outgrowth from instruction about the value of hunting as a management technique is instruction in hunter safety.

There are several cases where hunter education is included in agricultural education programs. In Georgia, hunter education is part of the Wildlife Conservation Management course that was revised in July, 2006 (Georgia Agriculture Education, 2006). One of the objectives of the course is that students complete the Georgia Hunter Education course. In a study of 155 agricultural education instructors in Georgia, Corbett (1993) found that 77% of the instructors surveyed had some type of natural resource subject matter incorporated into the program and 49% included hunter education as a part of their agriculture curriculum. In the textbook *Fish & Wildlife Principles of Zoology and Ecology* (Burton, 2003), hunter education is included within the context of management and human connections to wildlife. The Missouri Department of Conservation (MDC) has a plethora of instructional resources to be used by instructors for units related to natural resources, including materials for the state's hunter education certification program (MDC, n.d.).

With the increasing popularity of curriculum and courses related to natural resources, a demand for hands-on activities and competitions in this area has grown. According to Newcomb, McCracken, Warmbrod, and Whittington (2004), one of the principles for teaching and learning in agricultural education is "Students learn what they practice" (p.40). In fact, the concept of learning by doing is articulated in the motto of the National FFA Organization where it states "Learning to Do, Doing to Learn" (National FFA Organization, 2006, p. 27). Furthermore, another recommendation of the Committee on Agricultural Education in

Secondary Schools was that FFA should revise its focus and award structure of contests and activities to create new opportunities outside the area of production agriculture that would encourage a more diverse clientele into the program (The National Council for Agricultural Education, 2000). In 2002, a Career Development Event (CDE) in Environmental and Natural Resources was approved as an official activity of the National FFA Organization (National FFA Organization, 2006). This CDE provides FFA members the opportunity to earn awards and recognition for their ability to apply information related to this emerging area of the agricultural education curriculum.

Participation in shooting sports also provides an opportunity for agricultural education students to combine hands-on skill development with instructional content. Although the Safe Schools Act (Missouri Department of Elementary and Secondary Education, n.d.) hinders the ability of instructors to instruct students in the proper use of firearms on school grounds, some instructors have found other ways to provide this information and skill development. Shooting sports, such as trap, sporting clays, and skeet have been increasing in popularity over the last 15 years. According to the National Shooting Sports Foundation (NSSF, 2003), there was a 14% increase in the amount of participation in sporting clays competitions between 1990 and 2001. In addition, there were 17.8 million people six years of age and older who participated in target shooting in 2001 (NSSF).

In several states, shooting sports competitions have been held for FFA members. In 2005, there were 35 FFA chapters that participated in the Missouri Trapshooters Association state youth trapshoot (Missouri Trap Shooters Association, 2005). In 2006, 49 FFA chapters competed, representing a 42.8% increase in participation from the previous year (Missouri Trap Shooters Association, 2006). In Oklahoma, FFA members have the opportunity to participate in a Shotgun Training Education Program (STEP) through the Oklahoma Department of Wildlife Conservation (Oklahoma Department of Wildlife Conservation, 2006). On January 11, 2006 more than 400 students, parents, and instructors attended the Oklahoma FFA Sporting Clays

Championship that was part of the state Career Development Event in Shooting Sports (Oklahoma Department of Wildlife Conservation, 2006). To date, more than 400 school districts and hundreds of students have been involved in the program (Oklahoma Department of Wildlife Conservation, 2006).

To date, there has been very little research on the interactions between shooting sports and agricultural education programs. With the growing popularity of shooting sports as an FFA activity, it is important to gain information about instructors and students who participate in these activities. It is also of value to investigate the benefits of shooting sports to agricultural education programs and FFA members.

Purpose

The purpose of this study was to determine the perceptions of secondary agricultural education instructors of students who participate in shooting competitions for FFA members regarding the educational value of shooting sports.

Objectives

1. Describe selected personal and professional characteristics of agricultural education instructors with students who participate in shooting sports in Missouri.
2. Describe agricultural education students who participate in shooting sports in Missouri.
3. Describe the perceptions of high school agricultural education instructors of students who participate in shooting sports regarding relationships between shooting sports and the agricultural education curriculum in Missouri.
4. Determine the perceptions of high school agricultural education instructors of students who participate in shooting sports regarding their in-service education and other training needs related to shooting sports.
5. Determine the perceptions of agricultural education instructors regarding the value of shooting sports in the agricultural education program.

Methods/Procedures

The target population of this study was agricultural education instructors whose students participated in the 2005 Missouri State High School Trapshoot in the FFA division. This study was a census of the group and was not intended to predict or make assumptions about the general population of FFA advisors in the state. A list of schools that participated in the Missouri State High School Trapshoot in the FFA division was obtained from the Missouri State Trapshooting Association (MSTA). From this list, 35 FFA chapters were identified. The name of the advisor was identified by the registration information from MSTA and contact information for the instructor was gathered from the 2004–2005 Missouri Agricultural Education Directory (Missouri Department of Elementary and Secondary Education, 2004).

Data were gathered using a web-based questionnaire that was created by the researcher. The questionnaire contained 49 questions divided into two parts. Items in Part One were designed to gather data related to the instructors' perceptions about shooting sports in agricultural education. Part Two gathered data regarding the instructors' personal and professional characteristics that were relevant to this study.

A panel of experts evaluated the content and face validity of the instrument. Revisions were made to the instrument based upon recommendations of the panel. A pilot study using a group of agricultural education instructors not included in the population for this research was conducted to ascertain the reliability of the instrument. The Cronbach's Alpha of the instrument was $\alpha = .85$.

Agricultural education instructors included in the study was sent an email introducing the research project and explaining their role in it. The link to the web-based questionnaire was then emailed to the advisors and made accessible from April 27, 2006 to May 31, 2006. After exhaustive follow-up of non-respondents, usable responses were obtained from 20 instructors resulting in a response rate of 57.1%.

Results/Findings

Findings Related to Objective 1

Objective 1 was to describe selected personal and professional characteristics of

agricultural education instructors with students who participated in shooting sports. Of the 20 respondents, 14 (70%) were male and 6 (30%) were female. The mean age of the instructors was 33.75 years with a range of 23 to 53. The average number of years of teaching experience was nine, ranging from a low of 1 year and a high of 24 years. The average number of days that the respondents spent hunting per year was 12.20.

Data were gathered related to the instructors' personal experience and

involvement in hunting, shooting sports and other activities related to natural resources. Of the selected activities, the one with the greatest number of participants was deer hunting (70%) followed by turkey hunting (55%), and camping (50%). Two instructors indicated that they have trapped animals and none of the instructors hunt small game, upland game birds, or waterfowl. Four instructors indicated that they do not participate in any of the outdoor activities that were listed. These data are displayed in Table 1.

Table 1

Outdoor Activities in Which Agricultural Education Instructors Participate (N = 20)

Activity	<i>f</i>	%
Deer Hunting	14	70%
Turkey Hunting	11	55%
Camping	10	50%
Trapping	2	10%
Small game hunting (squirrel, rabbit, etc.)	0	–
Upland game bird hunting (pheasant, quail, etc.)	0	–
Waterfowl hunting (duck, goose, teal, etc.)	0	–
None of the selected activities	4	20%

Instructors were asked about their involvement in organizations related to natural resources and shooting sports. As shown in Table 2, 40% of the instructors were members of the National Wild Turkey Federation and 35% were members of the National Rifle Association. Four of the instructors (20%) were involved in

the Amateur Trapshooting Association and two were members of Quail Unlimited. None of the instructors in the study were members of the National Skeet Shooting Association or Pheasants Forever. More than half of the instructors (55%) indicated that they were not a member of any of the organizations listed.

Table 2

Outdoor Organization Memberships and Shooting Instructor Certification of Agriculture Education Instructors (N=20)

Name of the organization	Member		Instructor Certification	
	<i>f</i>	%	<i>f</i>	%
Missouri Department of Conservation Hunter Education	N/A	–	12	60
National Wild Turkey Federation (NWTF)	8	40	0	0
National Rifle Association (NRA)	7	35	2	10
Amateur Trapshooting Association (ATA)	4	20	0	0
Quail Unlimited	2	10	0	0
National Skeet Shooting Association (NSSA)	0	0	0	0
Pheasants Forever	0	0	0	0
4-H	N/A	–	0	0
None of the above	11	55	6	30

When asked if they were certified as a shooting instructor by an outside organization, 12 instructors indicated that they were a certified hunter education instructor by the Missouri Department of Conservation and 2 were certified by the National Rifle Association. Six of the respondents (30%) indicated that they were not certified by any recognized organization to teach hunter education or shooting sports. These data are shown in Table 2.

Findings Related to Objective 2

The second objective of this study was to describe agricultural education students who participate in shooting sports. The instructors

responded that an average of 21.7 students per instructor participated in shooting sports in the 2005–2006 academic school year (Table 3). The range was 6 – 75 participants per instructor. More than three-fourths (77.3%) of the participants were male. Grade level distributions among the students were 7.8% junior high, 28.1% freshman, 23.4% sophomores, 25.7% juniors, and 18.9% seniors. More than 20 percent of the students who participated (20.3%) had an IEP and 18.9% participated in other high school sanctioned sports. Of students who participated in shooting sports, 23.2% had a SAE related to conservation/natural resources (Table 3).

Table 3

Characteristics of Participants in Shooting Sports Programs. (N=20)

Characteristics	<i>f</i>	%
Male	327	77.3
Female	96	22.7
Age of Participants		
Junior High	33	7.8
Freshman	119	28.1
Sophomore	99	23.4
Junior	109	25.7
Senior	80	18.9
Students with IEP	86	20.3
Students that Play other Sports	80	18.9
Students with conservation SAE's	98	23.2

Sixteen (80%) of the instructors indicated that their participation in shooting sports programs was approved by the local school board. An average of 5.35 FFA shooting competitions were attended by the respondents during the year. Sixteen (80%) of the instructors practiced on Amateur Trapshooters Association (ATA) certified ranges. Instructors were also asked about the number of practice sessions they held for their FFA members who participated in shooting sports. Ten (50%) of the instructors held practice sessions at least once a week. Five (25%) of the instructors had monthly practices, 3 (15%) had bi-monthly practices, and two (10%) had practice sessions only at tournaments.

When asked about the popularity of shooting sports in their program, half (10) of the instructors strongly agreed that participation was

increasing. An additional six (30%) of the instructors agreed that participation was increasing. No instructors disagreed with the statement that participation in shooting sports was increasing.

Findings Related to Objective 3

The third objective of the study was to describe the perceptions of agricultural education instructors regarding the relationship between shooting sports and the agricultural education curriculum. The instructors agreed that shooting sports is of educational value to the agriculture program ($\mu = 4.50$; $SD = .83$). They agreed that participation in shooting sports was increasing ($\mu = 4.30$; $SD = 0.80$) and that shooting sports should be part of the curriculum in high schools ($\mu = 4.25$; $SD = 0.85$). The

instructors also agreed ($\mu = 4.00$; $SD = 1.03$) that students should be recognized through the FFA. However, when asked if a Career

Development Event for shooting sports should be developed, they were neutral ($\mu = 3.50$; $SD = 1.36$). These data are summarized in Table 4.

Table 4

Perceptions of Agricultural Education Instructors Regarding the Relationship of Shooting Sports and Agricultural Education. (N=20)

	μ	SD
The shooting sports program is educationally valuable to my Agricultural Education program.	4.50	0.83
The number of students participating in the shooting sports program is increasing.	4.30	0.80
Teaching firearm skills should be a part of Agricultural Education curriculum in high schools	4.25	0.85
Students should be recognized for their achievements in shooting sports through the FFA.	4.00	1.03
Shooting sports should become an approved CDE event.	3.50	1.36

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Instructors were requested to list the courses that they deemed shooting sports could be included in the curriculum. Table 5 shows the five courses or units that were reported by the

instructors. Fish and Wildlife Conservation was the highest with eight (40%) responses followed by Ag Science I (conservation emphasis) with five (20%).

Table 5

Perceptions of Agricultural Education Instructors to Where Shooting Sports Fits Into The Agricultural Education Curriculum (N=20)

Name of the course	f	%
Fish and Wildlife Conservation	8	40
Agriculture Science I (Conservation emphasis)	5	20
Agriculture Science II (Natural resource emphasis)	3	15
Junior High Exploratory Agriculture	3	15
Hunter Education	1	5
Should be outside of school	1	5

Findings Related to Objective 4

The fourth objective of the study was to determine the instructors' perceptions regarding in-service needs of agricultural education instructors. Of the 20 instructors who participated in the study, 14 (75%) strongly agreed or agreed that they were competent to instruct students in shooting sports. One instructor disagreed with the statement about competence to instruct students about shooting sports.

Twelve (60%) of the instructors strongly agreed that they would attend professional development focused on instructing shooting sports. Nearly one-third (30%) of the respondents indicated that they would not participate in professional development activities related to shooting sports. Overall, instructors agreed ($\mu = 4.15$, $SD = 0.93$) that standards should be developed for instructor training in high school shooting sports programs. These data are displayed in Table 6.

Table 6
Perceptions of Agricultural Education Instructors In Instruction Competency and Professional Development Needs (N=20)

	μ	<i>SD</i>
Standards should be developed for instructor training in high school shooting sports programs.	4.15	0.93
I feel competent to instruct shooting sports.	4.25	0.98
I seek out professional development opportunities in shooting sports.	3.65	1.27

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Findings Related to Objective 5

The fifth objective of the study was to determine the value of shooting sports as perceived by agriculture education instructors. Table 7 shows the instructors' perceptions of

leadership skills developed in shooting sports. The three highest ranked leadership characteristics were self confidence ($\mu = 1.35$; $SD = 0.49$), responsibility ($\mu = 1.55$; $SD = 0.76$), and respect ($\mu = 1.60$; $SD = 0.75$).

Table 7
Perceptions of Agricultural Education Instructors Regarding Leadership Skills Developed by Participants in Shooting Sports (N = 20)

Characteristics	μ	<i>SD</i>
Self Confidence	4.65	0.49
Responsibility	4.45	0.76
Respect	4.40	0.75
Trustworthiness	4.35	0.75
Fairness	4.35	0.81
Positive Impact on IEP Students	4.25	0.79
Citizenship	4.20	0.89
Leadership	4.10	0.79
Caring	3.85	1.04

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Conclusions, Recommendations and Implications

Agricultural education instructors with students who participated in 2005 Missouri State High School Trapshoot in the FFA division were a diverse group. While such instructors are typically male, their age, teaching experience, and level of training related to providing instruction in shooting sports vary greatly. One similarity among this group of instructors was their participation in outdoor recreational activities. The vast majority of the instructors in this study take part in one or more such activity. A subject for further research would be to investigate the influence of instructors' personal interest in shooting sports upon their enthusiasm to have students participate in these activities.

Nearly one-third of the participating instructors indicated that they are not certified to

provide instruction in shooting guns. This finding has critical implications related to proper training of students for such activities. Will a non-certified instructor be able to teach all of the techniques necessary for successful shooting? More importantly, will a non-certified instructor use and share all precautions needed to ensure the safety of the students?

Most of the FFA members that participated at the state level in Missouri in shooting sports are male high school students. Nearly one-fourth of these students have an SAE related to natural resources. It would be interesting to know why these students participate in shooting sports. From where does their interest in shooting sports come? Does participation in shooting sports relate to their SAE or their career aspirations? How does participation in shooting sports impact these students? A study focusing on

students who participate in shooting sports should be conducted.

Nearly two-thirds of the instructors that participated in the Missouri state trapshoot event indicated that they would attend professional development related to shooting sports. Such workshops should be conducted as a part of the professional development offerings in Missouri. The state professional development specialist should partner with the Missouri Department of Conservation and/or the National Rifle Association to develop and deliver these in-service programs. Further research needs to be conducted to understand the level of competence of the instructors related to instructing shooting sports and the wants and needs of the instructors who are involved. What level of skill do they currently have or aspire to attain in both personal and professional abilities? What programs should be developed to help them acquire and maintain those skills?

Instructors in Missouri believe shooting sports are of value to the agriculture education program and they believe the popularity of these activities is increasing. They believe teaching firearm safety should be included as a part of the agriculture education program. They consider instruction in firearm safety to fit within the agricultural education curriculum. Further research needs to be conducted to investigate what aspects of firearm use are being taught, at what level and with what methods. How many programs teach hunter education in the agriculture education program? Is proper use of firearms being taught to junior high school students or primarily to high school students? Within what curriculum is this being taught? Do students receive any level of certification with the instruction? Should the students who participate in shooting sports be required attend a certification course?

Instructors also believe there should be some standard of instructor training for instructors who coach and sponsor a shooting sports team. What level and skills should an instructor have to be a coach of a shooting sports team? Can certification programs that currently exist, such as the NRA and 4-H instructor certification programs, be used? With a proven track record and currently existing programs, these options should be closely considered by states to assure competency of instructors.

Instructors in Missouri find numerous benefits to students who are involved in shooting sports. Instructors believe that it helps to develop self-confidence, responsibility, respect and trustworthiness in their students. This finding is in agreement with a statement made by Matt Szamoski, manager of the NRA Youth programs. He said that nothing has given him the discipline and comradeship like shooting sports (Stevens, 2000). There are many benefits to shooting sports that have not been measured as of yet. Are the leadership skills learned through shooting sports transferable to other areas of agricultural education? What technical skills related to natural resources are enhanced through participation in shooting sports?

It is clear that the involvement in shooting sports by agricultural education programs, agriculture instructors and FFA members is increasing. Because of the contentious nature of firearms and their use, it is important to conduct more research in this area. Relationships between agricultural education groups and conservation, hunting and firearms organizations should be investigated. What are the positive and negative implications of these relationships? Researchers should also study instructors, students, school administrators, parents and other stakeholders regarding shooting sports.

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