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Cooperation Between Secondary Agricultural Educators and Extension Agents

Abstract
The study reported here explored cooperation between agriculture teachers and Extension agents and characterized the environment surrounding interdisciplinary cooperation. A researcher-developed questionnaire was used to explore individual perceptions regarding cooperation, behavioral intentions, and individual experiences with cooperation. Means and standard deviations were compared between disciplines. Results indicated that agriculture teachers and Extension agents seemed to have very similar ideas concerning personal perceptions, motivations, and experiences regarding cooperation. Recommendations include joint preparation for teachers and agents, pre-service and in-service incorporation of different facets of cooperation, and assembling an integrated discussion group where future interdisciplinary associations could be discussed.

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Introduction/Theoretical Framework

The need for cooperation is evident in the educational arena, in both formal and non-formal situations. According to Fauske (2002), cooperation is necessary for attracting resources in education. In another study, investigators found that through the use of factors such as information sharing, team building, and assigned tasks, the amount of cooperation and resource sharing that occurred between agriculture and science teachers was significantly increased (Whent, 1994). Simply stated, engaging in cooperative relationships across disciplines allows those involved to be more efficient and therefore more effective.

Fortunately, there is a common theme running through the overall purposes of Extension and agriculture education--the intellectual and leadership development of its youth. This common goal should encourage educators and Extension agents to work together. However, as Hillison (1996) states, we need to occasionally review the level of cooperation between the Cooperative Extension Service and agriculture teachers.

Anecdotal evidence as well as a recent exploratory study suggest that a problem of limited cooperation exists between the disciplines of agricultural Extension and agricultural education, particularly in youth programming (Grage, Ricketts, & Place, 2002). Nonetheless, cooperation between these entities is important; working together allows us to expand opportunities for youth development, as well to work in a more efficient and effective manner.

But why should we cooperate? As Triandis (1977) notes that, once you identify different individual motivations, you can make inferences regarding an individual's behavior. Furthermore, Triandis explains that the relationship between behavior and motivation is important to help identify why people form cooperative associations or to identify and address a lack of cooperation within specific situations.

According to Deutsch's Theory of Cooperation (1949), both cooperation and competition, and the processes that underlie these outcomes are important in developing cooperative relationships. As he relates, cooperation is a social concept, one that may be limited due to a lack of cooperative knowledge and the motives of those engaged. Moreover, the persistence of cooperation depends upon two outcomes, effectiveness and efficiency, and, ultimately, the satisfaction of the individuals involved. Still, with added cooperation, a greater synergy can be developed between disciplines. This further affects the youth involved by helping them to develop life skills, leadership, and citizenship.

To explore the current environment of interdisciplinary cooperation between agriculture teachers and Extension agents in a southeastern state, a questionnaire concerning cooperative perceptions, motivators, and experiences was conducted. The findings of this study identified specifics of the current cooperative environment, including strengths and barriers to cooperation, that could lead to increased future cooperation.

Purpose/Objectives

The purpose of the study reported here was to explore cooperation between agriculture teachers and Extension agents in Florida and characterize the current environment surrounding cooperation between disciplines. To achieve this purpose, the following objectives were established:

1. Describe the demographic characteristics of the respondents across each discipline.
2. Determine the perceptions of agriculture teachers and Extension agents toward general and interdisciplinary cooperation.
3. Determine behavioral intentions of agriculture teachers and Extension agents to cooperate.
4. Identify cooperative experiences between agriculture teachers and Extension agents.

Methods/Procedures

Population and Sample

The target populations for the study were secondary agriculture teachers and Extension agents in Florida. Participants in the study were chosen through a random sample from agricultural teachers listed in the state's Association of Agriculture Teachers directory. Extension agent participants were selected through a random sample from the university's personnel directory. Within each group, 100 potential contributors were selected, for a total of 200 individuals across both populations. This sample provided a cross-section of educators and agents involved in FFA and 4-H who could adequately address the purposes and objectives. The final response rate was 50%, where a breakdown of respondents included 45 (45%) agriculture teachers and 55 (55%) Extension agents.

Instrumentation, Data Collection & Analysis

The survey used in the study was a researcher-developed instrument. Survey design and implementation was done according to Dillman (2000), using the Tailored Design method. The instrument was reviewed by an expert panel and pilot tested with two separate groups. The agricultural education questionnaire was tested at the Florida FFA Beginning Teachers and Administrators conference (n = 10), and the Extension questionnaire was tested at a session of New Extension Faculty orientation (n = 14). Finally, returned questionnaires were grouped, entered and analyzed in SPSS.

Results/Findings

Demographic Characteristics

Respondents were predominately male, specifically within agriculture teachers (62%) and Extension agents (58%). Over 65% of each group had children still at home. Concerning crossover experience, some Extension agents have served as agriculture teachers (15%); however, few agriculture teachers have served as Extension agents (2%). In regard to the respondents' age among agriculture teachers, 62% fell into one of two age groups, from 26-35 and 46-55. Within Extension agents, respondents' ages were more evenly distributed, with 26% between 26-35 and a similar 30% being between the ages of 46-55. Finally, while 51% of Extension agents had been in their position less than 5 years, only 16% of teachers find themselves in a similar situation. On the other end of the spectrum, only 30% of Extension agents who responded have been in their position for over 15 years, with over half (53%) of the teachers reaching this longevity.

Perceptions Regarding Cooperation

When asked what the ideal degree of interdisciplinary cooperation is, the study showed 98% of Extension agents believed there should be at least a moderate degree of interdisciplinary

cooperation occurring, with 57% stating a high degree of cooperation is needed. Ninety-two percent of agriculture teachers agreed that at least a moderate degree of cooperation is necessary, with a staggering 75% reporting a high degree of cooperation is ideal. Within the actual cooperative process, 72% of Extension agents stated they currently cooperate with agriculture teachers, with 80% of agriculture teachers in accord.

While each discipline's perception regarding cooperation varied slightly according to strength of agreement, practically speaking they were remarkably similar. As illustrated in Table 1, both disciplines agreed most strongly that cooperation allows for added resource sharing, with a mean of 4.49 for agriculture teachers and 4.61 for Extension agents. They also agreed on their second strongest perception, when agriculture teachers ($\mu = 4.33$) and Extension agents ($\mu = 4.41$) indicated they were more likely to cooperate with a committed and responsible party. After this, while there was not much practical variation, each discipline ranked the statements slightly differently.

Table 1.
Comparison of Agriculture Teachers' and Extension Agents' Perceptions About Cooperation

Item	Agriculture Teachers[a]		Extension Agents[a]	
	Mean[b]	*SD*	*Mean*[b]	*SD*
Cooperation allows for added resource-sharing.	4.49	.74	4.61	.49
I am more likely to cooperate with someone who is committed and follows through on a project.	4.33	.64	4.41	.53
Cooperation between agriculture teachers and Extension agents is important to offer the best opportunities to youth.	4.28	.63	4.13	.73
Full participation by all parties is necessary for cooperation to occur.	4.28	.77	3.98	1.00
Some personalities do not work well together.	4.16	.81	4.13	.75
Most projects need cooperation to be more effective.	4.12	.59	4.00	.90
There are certain personalities with whom I work well.	4.09	.57	4.19	.62
Personal relationships with potential cooperators outside of work enhance the possibility of cooperation at work.	4.09	.57	3.67	.93
The time I devote to cooperation is well-invested.	4.02	.67	4.13	.56

After initial time devoted, effective cooperation will result in greater time savings.	3.91	.75	3.89	.69
My decision to cooperate is dependent upon the other parties' characteristics such as responsibility, personality, and respect.	3.90	.88	4.04	1.03
I feel like I can communicate freely with the agriculture teachers/Extension agents in my county.	3.84	1.09	3.68	1.01
A congenial relationship between myself and the agriculture teachers/Extension agents in my county is important for successful cooperation.	3.83	.62	3.86	.81
People should be able to work with anyone if they try hard enough.	3.72	.93	3.19	1.08
I cooperate best with old acquaintances.	3.58	.96	2.91	.85
Cooperation requires additional time.	3.40	.99	3.29	.96
Cooperation requires more effort than working alone.	3.35	1.00	3.21	.96
Successful cooperation can only occur with people I respect.	3.30	1.01	3.13	.93
I listen to the agriculture teachers/Extension agents in my county more than they listen to me.	3.23	.90	2.88	.68
If I want things done right, I do them myself.	3.17	.96	2.91	1.06
I work best with those with whom I have a history.	3.14	.91	3.00	.91
I feel like I don't have anything to reciprocate to the agriculture teachers/Extension agents in my county.	2.60	.82	2.33	.82
I feel like the agriculture				

teachers/Extension agents in my county are too busy to cooperate with me.	2.53	.85	2.54	.70
I have previously tried to cooperate and it is not worth the time required.	2.28	.93	2.27	.74
Cooperative relationships consume too much time.	2.28	.77	2.09	.52
My decision to cooperate is based upon what I hear from others in my field.	2.21	.80	2.31	.77
I feel like I'm competing with FFA/4-H for participants.	2.05	.95	2.62	.97
Being organized and punctual are not important in a successful cooperative relationship.	2.02	2.10	1.70	.84
FFA and 4-H should cooperate only in certain situations.	2.00	.93	2.30	.93
Students should not be allowed to participate in both 4-H and FFA.	1.74	1.04	1.70	.90
In general, FFA and 4-H should not cooperate.	1.56	.70	1.52	.64
a: n = 100; 45 agriculture teachers and 55 Extension agents.				
b: Based on a five point Likert-type scale. 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.				

Agriculture teachers and Extension agents also similarly ranked the top two items with which they most strongly disagreed. When stated "In general, 4-H and FFA should not compete," agriculture teachers disagreed with a mean of 1.56, with Extension agents also disagreeing with a slightly lower 1.52. In addition, both agriculture teachers ($\mu = 1.74$) and Extension agents ($\mu = 1.70$) argued with the sentiment that students should not be allowed to participate in both 4-H and FFA.

Cooperative Behavioral Intentions

When looking at cooperation and the chance of it occurring, one must first look at the motivations of each party involved (Triandis, 1979), which ultimately influences their behavioral intentions. Both agriculture teachers and Extension agents answered similarly when asked about their highest motivators in forming cooperative associations (Table 2.). The top four responses were identical, with the respective organization's value to youth being the top motivator to cooperate. When reaching the fifth motivator, agriculture teachers felt making activities more enjoyable was important, while Extension agents felt cooperation was more important in developing increased awareness about Extension.

Table 2.
Comparison of Agriculture Teachers' and Extension Agents' Behavioral Intentions

Item	Agriculture Teachers[a]		Extension Agents[a]	

	Mean[b]	SD	Mean[b]	SD
Organizational Factors				
Extension's/agricultural education's value to youth	3.82	.39	3.64	.56
Benefit to participating programs	3.38	.53	3.40	.49
Increased awareness of agriculture education/Extension	3.33	.60	3.29	.63
Agriculture education's/Extension's mission	3.24	.65	3.29	.66
Agriculture teaching's/Extension's values	3.22	.64	3.15	.70
Vision of Agriculture education/Extension	3.16	.64	3.04	.67
Agriculture education's/Extension's philosophy	2.82	.68	2.95	.65
Individual Factors				
Teacher's/agent's value to youth	3.76	.43	3.47	.63
Enhancing subject area	3.42	.54	3.40	.63
To make activities more enjoyable	3.36	.57	3.22	.53
More effective time usage	3.36	.57	3.18	.67
Improved professional relationships	3.33	.52	3.15	.65
Greater ability to specialize in area(s) of interest	3.33	.56	3.05	.62
Personal satisfaction	3.11	.80	3.07	.72
Greater professional recognition	2.60	.89	2.46	.82
Satisfy my supervisor(s)	2.20	.94	2.28	.74

Receiving monetary rewards	2.20	.84	1.80	.89
a: N = 100; 45 agriculture teachers and 55 Extension agents.				
b: Based on a four point Likert-type scale. 1=Never; 2=Seldom; 3=Usually; 4=Always.				

On the opposite end of the spectrum, agriculture teachers again agreed with Extension agents on the top four aspects that motivated them the least. Receiving monetary rewards was the least motivating reason for cooperation, followed by cooperating in order to satisfy my supervisors, for greater individual professional recognition, and to address their discipline's philosophy.

Individual Experiences with Cooperation

As with the two previous sections, agriculture teachers and Extension agents shared similar responses when addressing positive cooperative experiences. While each discipline responded in a slightly different order of emphasis, the top four responses were identical. Agriculture teachers most strongly identified with cooperative experiences connected with the county or state fair, while Extension agents' top reason was a more generally stated "My cooperative activities are successful." Both disciplines strongly felt they had experienced successful results when cooperating and also agreed their respective organizations encourage cooperation between 4-H and FFA. Finally, while Extension agents felt interdisciplinary cooperative relationships were an effective way to share resources, agriculture teachers more strongly identified with encountering examples of successful cooperative relationships from their peers.

Concerning areas where a minimum of cooperative experiences has been encountered, both disciplines ranked various types of joint programming the least explored area. Joint education programs, demonstrations, recruitment, and co-training teams or other leadership activities were other areas where agriculture teachers and Extension agents seldom experienced cooperation. Extension agents also went on to rank community service projects as another key area where effective cooperation was lacking (Table 3).

Table 3.
Comparison of Agriculture Teachers' and Extension Agents' Experiences with Cooperation

Item	Agriculture Teachers[a]		Extension Agents[a]	
	Mean[b]	SD	Mean[b]	SD
I cooperate with Extension agents/agriculture teachers at the county/state fair.	3.60	.55	3.00	1.11
I participate in combined 4-H/FFA judging contests.	3.42	.69	2.74	1.00
I have experienced successful results when I have cooperated with Extension agents/agriculture teachers.	3.24	.66	2.98	.58
My cooperative activities are successful.	3.14	.60	3.10	.38
I encounter examples of successful cooperative instances from my peers.	2.91	.75	2.72	.56
The organization encourages cooperation between 4-H and FFA.	2.77	.97	2.83	.91

I share resources with the Extension agents/agriculture teachers in my county.	2.64	.93	2.95	.88
My supervisor encourages cooperation between myself and the Extension agents/agriculture teachers in my county.	2.39	1.05	2.74	1.06
I cooperate with the local 4-H clubs/FFA chapters through community service projects.	2.36	1.07	1.79	.80
I conduct educational programs with the Extension agents/agriculture teachers in my county.	2.33	1.04	2.42	.93
I share curriculum with the Extension agents/agriculture teachers in my county.	2.23	1.00	2.55	1.01
The Extension agents/agriculture teachers in my county and I co-train various teams and/or other leadership activities.	1.83	.85	1.80	.79
The Extension agents/agriculture teachers in my county and I assist each other in recruiting members.	1.67	.79	1.95	.85
The Extension agents/agriculture teachers in my county and I conduct demos/presentations together.	1.61	.90	1.83	.75
The Extension agents/agriculture teachers in my county and I conduct joint adult education programs.	1.53	.88	1.63	.74
a: N = 100; 45 agriculture teachers and 55 Extension agents.				
b: Based on a four point Likert-type scale. 1=Never; 2=Seldom; 3=Usually; 4=Always.				

Conclusions & Recommendations

Overall, agriculture teachers and Extension agents seemed to have very similar ideas concerning personal perceptions, motivations, and experiences regarding cooperation. This reflects well on the current environment for future cooperative ventures, because it translates into less training and exposure needed to bring cooperative participants into similar erudition. More cooperative partnerships will help streamline and enhance the work of agricultural educators and Extension agents, along with allowing those involved to build upon one another's strengths.

Perceptions Regarding Cooperation

Individual perceptions regarding cooperation were quite similar between agriculture teachers and

Extension agents. Each discipline realizes the value of cooperation and recognizes specific characteristics such as responsibility, commitment, and respect are important to developing an effective cooperative relationship. It is important that current agriculture teachers and Extension agents be aware of the major components of cooperation, implementation, and the relationships involved in order to understand the advantages and disadvantages involved in developing effective future relationships. Additionally, it is anticipated that when individuals understand the need for effective interdisciplinary cooperation, they will more readily form cooperative partnerships.

Conversely, there were also important cooperative aspects to which agriculture teachers and Extension agents responded neutrally or with which they disagreed. For example, cooperation requiring additional time and more effort than working alone is an area where each discipline answered neutrally. It is important that cooperative participants realize that while cooperative experiences do take additional time initially, this time is more than made up for in future efficiency. This could explain why more cooperation is not occurring. If potential cooperators feel cooperation will always require more time and effort, they may be hesitant about even beginning a cooperative association.

To remedy this, employers and university faculty should stress the importance and necessity of developing good cooperative relationships to new educators and Extension personnel, as well as students studying these professions. Seminar curricula should include different types of motivation and how to discern behavioral intentions, team-building techniques, goal development, and conflict resolution. Ideally, incorporation of these ideas into pre-service activities such as new employee orientation training, or in-service activities such as a cooperative relationship development workshop should increase and improve future cooperative associations. Furthermore, professional awareness between educators and Extension agents can be extended through formal, joint preparation for teachers and agents. This training should help to change current negative and inaccurate perceptions about cooperation and encourage new cooperative relationships.

Cooperative Behavioral Intentions

As mentioned previously, when looking at an individual's behavioral intentions, one must first focus on the motivations that guide the individual. Similar motivations to cooperate among agriculture teachers and Extension agents allow for each group to work more effectively towards a shared goal. Fortunately, both groups have similar idealistic motivators relating to improving their value to youth, enhancing their subject area, and improving their education potential as a whole. Each discipline also had similar non-motivating factors, including achieving their respective philosophies. Whether this means neither group places much importance upon their organization's philosophy or they believe the philosophy is something those in administration should deal with, it is obvious this is something with which neither group is overly concerned.

Individual Experiences with Cooperation

Research results seem to indicate there is already a quite of bit of interdisciplinary cooperation occurring between agriculture teachers and Extension agents. This would oppose the preliminary exploratory research findings indicating a lack of strong interdisciplinary cooperation (Grage, Ricketts, & Place, 2002). Extension agents and agriculture teachers are sharing resources, cooperating at county and state fairs, and participating in combined judging contests, with many reporting successful results. This illustrates that when cooperative alliances are successfully developed and maintained, the outcomes are good for all involved.

Regardless, there are still many areas where more cooperation could occur. Sharing curriculum, co-training various teams or leadership activities, and joint adult education programs are only a few of the areas where increased cooperation could improve and expand the learning environment. Combating a negative connotation associated with cooperation is also an important facet in improving the environment, which may lead to developing more interdisciplinary cooperation.

Cooperation should also be explored through discipline-specific discussion groups. By addressing cooperation and how it affects their discipline, those involved may well have a better understanding of what interdisciplinary cooperation entails from their profession. Once each discipline has explored cooperation and its specific components, an integrated discussion group could be set up in order to discuss the different issues involved and to convey the diverse beliefs, concerns, and experiences regarding cooperation held within each discipline. Ideally, this will make clear the differences among disciplines, as well as help develop potential future cooperative associations between disciplines.

Finally, limited research has been done in the area of interdisciplinary cooperation within agriculture. Many aspects regarding cooperation between agriculture teachers and Extension agents have not yet been addressed and need to be studied. Future research should address cooperation and its relationship to individual personality, leadership style, cooperative environment, group dynamics, administrative support, and other relevant areas.

Cooperation continues to play an important role within society today. With the current pressures placed upon today's Extension professionals and agriculture teachers, it is more important than

ever to develop cooperative skills and relationships. Even though there appears to be some cooperation occurring between these disciplines, continually increasing the number of cooperative relationships and interactions could help to make the education process even more efficient. Through effectively learning and teaching these skills, we can help to ensure our future leaders and educators a brighter tomorrow.

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