Collaboration as a Tool to Improve Career and Technical Education: A Qualitative Study of Successful Collaboration Among Extension Agents and Agricultural Science Teachers

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ABSTRACT

Collaboration among Extension agents and agricultural science teachers has the potential to increase the reach of both organizations to serve clientele in obtaining critical skills and knowledge important to Career and Technical Education. However, successful collaboration requires that barriers be minimized and aspects of facilitation be maximized. This paper sought to document best practices of collaboration among agents and teachers across [state]. Study findings revealed that both agricultural science teachers and Extension agents see value in collaborating with one another. Barriers to collaboration included lack of time to collaborate, the number of schools in a county, the size of the county compared to the location of schools, and negative personal views toward individuals (competition). Recommendations for establishing successful collaboration have been provided.

Introduction & Theoretical Framework

Collaboration among Extension agents and agricultural science teachers has the potential to increase the reach of both organizations to serve clientele in obtaining critical skills and knowledge important to Career and Technical Education. However, successful collaboration requires barriers to be minimized and aspects of facilitation be maximized. In order to understand how to encourage collaboration among agents and teachers, one must first understand the history of both organizations.

The [state] Extension service was founded in 1914 by the passage of the Smith-Lever Act with the purpose of allowing the diffusion of current research to the mass populations ([state] State Historical Association, 2009). During the same time period, secondary agricultural education was encouraged through the passage of the Smith-Hughes Act in 1917. As shared by Moore (1988), "the Smith-Hughes Act simply provided federal funds directly to states to continue supporting the teaching of agriculture, established strict guidelines for operation of high school agricultural programs, and made the instruction more vocational" (p. 176). Both organizations (i.e., Extension and agricultural science education) serve Career and Technical Educational roles within agriculture. Thus, it would seem appropriate that these two organizations would collaborate. However, collaboration has not always been achieved. This study was completed in an effort to identify promising practices that encourage collaboration among Extension agents and agricultural science teachers in [state].

Mentzer (2001) provided insight into collaboration from the supply change perspective, listing nine enablers of collaboration: common interest, openness, mutual help, clear

expectations, leadership, co-operation, non-punishment, trust, benefit sharing, and technology. Understanding these nine enablers and deciding collectively how agricultural science teachers and Extension agents can benefit from that understanding have the potential to change collaboration efforts among the groups for the better. Margolis and Runyan (1998) described barriers related to collaboration among academicians, agencies, and community organizations. The authors shared that barriers to collaboration arise from differences in many areas including: the approach to defining problems and solutions, career advancement, work styles, time demands, and approaches to the use of information.

A review of literature conducted by Mattessich and Monsey (1992) also revealed categories of factors that research has shown can influence collaboration and provided a theoretical base for the study of collaboration in the context of Career and Technical Education in agricultural science education and Extension. Nineteen factors articulated in the study were grouped into six categories that included: environment, membership characteristics, process/structure, communication, purpose, and resources. The authors shared that each of these categories were identified in the literature as influencing the "success of collaborations formed by human service, government, and other nonprofit agencies" (p. 14). Each factor is supported by multiple studies that identified that item as influencing successful collaboration. For example, Rist, Hamilton, Holloway, Johnson, and Wiltberger (1980) conducted a longitudinal, ethnographic study that identified 12 of the 19 factors as influencing collaboration in educational settings. An additional study (Harbin, Eckland, Gallagher, Clifford, & Place, 1991) reported an analysis of six case studies related to factors influencing policy implementation and identified nine of the 19 factors as influencing collaboration. Further, Agranoff and Lindsay (1983) identified 11 of the 19 factors as influencing collaboration in their study focused on defining intergovernmental management. However, while this literature review provided a wealth of information it did not address the setting of Career and Technical Education delivered through agricultural science education programs and Extension.

Effective collaboration has the potential to improve job satisfaction. Brewer and McMahan-Landers (2003) found that a "lack of organizational support seem[ed] to have a greater impact on job satisfaction than stressors related to the job itself" (p. 44). Thus, if individuals involved in Career and Technical Education (e.g., agricultural science teachers, Extension agents) are able to collaborate, this in turn could provide a stronger, more tightly interwoven network of "organizational support" for all involved. Strong and Harder (2009) reported that "agents are asked to work long and abnormal hours that include nights, and weekends" (p. 3). Collaboration has the potential to assist agents and reduce job stress through joint approaches. Nestor and Leary (2000) reported that faculty members were more likely to be highly satisfied when support was provided in the work place. The same could be true for individuals involved in Career and Technical Education.

The importance of collaboration is not unique to agriculture. Sharfman and Gray (1991) provided insight into collaboration from the perspective of the garment industry. These authors argued that gaining an understanding of collaboration requires looking at both "competitive and institutional forces" (p.182) that affect the members. They further stated that "the context of any collaboration can be analyzed to determine the forces that are likely to shape its fate" (p. 205).

The authors added that "efforts can be made to reduce the impact of the restraining forces and enhance the impact of supportive forces" (p. 205).

O'Lawrence (2007) reviewed vocational education at community colleges in California and reported a need to "continue building relationships between the California State University System and the community colleges" (p. 90). Collaboration was described as a means to prepare workers in a way that provided both classroom education and practical experience. This concept is mirrored in the work of Extension agents and agricultural science teachers, in that successful collaboration could benefit students by allowing an improved and enhanced learning experience, while also benefiting society through a better supply of educated and experienced workers. Stewart (2008) reported that "cooperation among teachers and administrators" (p. 29) was one factor that appeared to result in school achievement. In addition, an increase in teacher collaboration has also been shown to result in increased teacher self-efficacy (Shachar & Shmuelevitz, 1997) and has been "associated with increased levels of student achievement" (Goddard, Goddard, & Tschannen-Moran, 2007, p. 891). Collaboration has also been shown to help participants gain a more thorough understanding of the topic being discussed, and, in regard to ideas that have been accepted by the participant group, there is "more reiteration of and agreement with" these accepted solutions (Kruger, 1993, p. 173).

International studies also point to the importance of collaboration. Anamuah-Mensah, Asabere-Ameyaw, and Dennis (2007) examined the usefulness of educational curriculum in Ghana and issued a call for engagement with industry and employers in the curriculum. Schulz-Zander, Büchter, and Dalmer (2002) reported that in a study conducted in Germany, "collaboration with partners outside schools provides the opportunities to enrich the teachers' competencies" (p. 447).

Purpose

The purpose of this study was to identify promising practices that encourage collaboration among Extension agents and agricultural science teachers in [state] by documenting examples, barriers, and influential factors identified by agents and teachers who have been successful at collaboration.

Methods and Procedures

The study reported here is a component of a two-part study focused on successful collaboration that included a survey instrument, with both objective and open-ended questions, and a focus group session. Objective-type questions were not used in the qualitative research reported here; only those objective-type questions that described the sample were included. Responses to the open-ended questions and focus group session were examined qualitatively and are the focus of this study.

Participant Selection

"Purposive and directed sampling through human instrumentation increases the range of data exposed and maximizes the researcher's ability to identify emerging themes that take

adequate account of contextual conditions and cultural norms" (Erlandson, Harris, Skipper, & Allen, 1993, p. 82). Purposeful selection of participants was accomplished using a nomination process in which state leaders in 4-H and FFA organizations in [state] were asked to identify teachers and agents who collaborate well with their counterparts. Nominees were then contacted to confirm that they collaborate well with their teacher/agent counterpart and asked to provide names of counterparts they collaborate with along with additional names these individuals recommended. The focus of this study was "successful collaboration," thus it was critical to select participants who fit that criterion. Patton (2002) defined criterion sampling as to "study all cases that meet some predetermined criterion of importance" (p.238). Thus, a total of 45 individuals (21 agents; 24 teachers) were nominated by state leaders and 12 additional individuals (3 agents; 9 teachers) were identified by the original group, yielding a purposive sample of 57 individuals (24 agents; 33 teachers). A total of 33 respondents (15 agents; 18 teachers) completed the online survey which included the four open-ended questions. Of these 33 respondents, five respondents (2 agents; 3 teachers) selected not to contribute comments to the open-ended questions; thus, comments via the open-ended questions were received from 28 respondents (13 agents; 15 teachers). Of the original 33 respondents, a total of 12 (7 agents; 5 teachers) individuals participated in the focus group, which was held approximately two months following completion of the online survey.

Data Collection and Processing

The four open-ended questions presented at the end of the quantitative instrument included: "Describe specific ways you have been able to collaborate;" "Why do you feel you have been able to collaborate?;" "What barriers exist that may have kept you from collaborating?;" and "Are there additional examples that you could share that exhibit collaboration…or lack of collaboration?" Written responses to these questions were transferred to a separate document and sorted as individual answers under each question column, each noted by a respondent number. Respondents were assigned a letter, (T) for agricultural science teacher or (A) for Extension agent, and a number based on order of response to maintain confidentiality of the respondents. Open-ended responses were then analyzed by researchers to identify themes, patterns, and categories. The constant-comparative method was followed during data analysis.

In order to gain rich and thorough information and input from respondents, statements and suggestions from open-ended question responses were incorporated into the creation of focus group questions. All participants who completed the online survey were invited to participate in the focus group session. Those who volunteered to participate were provided the option of participating via phone or online conferencing. Trustworthiness is an important component of qualitative research (Erlandson et al., 1993) and was established through the way in which individuals were contacted for participation. A researcher familiar with both groups corresponded with potential focus group participants. The focus group session lasted one hour. Questions used to guide the discussion included: "What is your definition of collaboration?;" "What are some common purposes of collaboration?;" "Does a rural or urban setting influence collaboration?;" "What are factors that encourage collaboration?;" "In your opinion, does involvement in 4-H or FFA as a youth organization impact collaboration?;" "What are some factors or stumbling blocks that inhibit collaboration?;" "How can collaboration be encouraged?;" "Is there benefit for one group over another [when collaborating]?;" and "What

are some recommendations for successful collaboration?" During the focus group session, three of the researchers recorded detailed notes.

Following the focus group session, each response was typed under the heading of the question it answered and was followed by the original respondents' letter and number, followed by an (F) to note that the response was exclusive to focus group questions. Reponses written down by all three researchers were then compared and complied into one document. Responses to focus group questions were analyzed for themes similar to those found in the open-ended questions to determine if they were exclusive to the focus group or reflected similar responses to the open-ended question responses. Triangulation can "provide insights about the same events or relationship" (Erlandson et.al., 1993, p. 115). Given that respondents who participated in the focus group session had also completed the online open-ended questions, triangulation was achieved through the analysis and comparison of open-ended responses, focus group notes, and observed audio intonations and online indications among these individuals. Findings are reported in aggregate instead of presenting the open-ended question results and focus group results separately due to the fact that the focus group session was an extension and compliment of the open-ended questions. The focus group session allowed further investigation of the topic, utilizing a sub-set of the sample that completed the open-ended questions.

Description of the Participants

Participants in the overall study can be described as predominantly male (84%) between the ages of 31-50 (67%). Forty-eight percent reported being employed in their current position more than 10 years. The majority of participants reported that their program has between 101-500 participants (75.8%) and categorized themselves as working in a rural setting (78%).

Findings

An evaluation of open-ended responses and focus group session responses revealed findings that were grouped into the following categories: definition of collaboration, areas of collaboration, major factors influencing collaboration, and barriers to successful collaboration. Focus group session responses added specifically to the topics of defining collaboration, areas of collaboration, the influence of rural versus urban settings of both teachers and agents, and the influence of former involvement in 4-H or FFA. During the focus group session, agents and teachers were eager to share their personal recommendations to encourage and support collaboration between the groups, including specific recommendations to leaders in both Extension and agricultural education who are in a position to encourage, support, and promote collaboration efforts. Findings from both the open-ended questions and the focus group session are shared below.

Definition of collaboration

Respondents in the focus group session shared similar views on a definition for collaboration. All respondents who contributed felt that collaboration related to team effort on behalf of both organizations. As one respondent shared, "Having a goal and working together to get that goal accomplished … for example, stock shows, or validations" (A13F) is important,

while others indicated that "Team effort to accomplish a target goal" (T7F) was critical, and, "…successful collaboration is a team effort" (A14F) .

Areas of collaboration

Responses to the open-ended questions revealed several areas of collaboration. Responses included: preparation of judging teams (A1, T5, T9, T17, A9, A12), animal transportation (T16, T6, A5, A11), use of livestock equipment (A9), programming efforts (A1, T1, A2, A4, A15, T7, T11, T12), leadership activities (A1), fund raisers (T6, A9), planning (T9), workshops (T18), and livestock projects in general (A7). One member of the focus group session included validations and stated the following: "When both teachers and agents are working on common tasks, there is equal benefit in all areas of collaboration" (A13F). Collaboration in regard to livestock showing was reported as an important area of collaboration as noted by respondent statements: "I haul the Ag Teacher's animals and youth and they haul 4-Hers and projects" (A11); "The agriscience teachers and myself collaborate on all aspects of livestock showing" (A2); "Livestock responsibilities in regards to species and expertise" (T8); "Organized grooming of animals prior to fair time" (A9).

Major factors influencing collaboration

Insight into why they had been able to collaborate was shared via both the open-ended questions and the focus group session. Several participants indicated that their collaboration efforts were impacted by an interest in and awareness of the common goals of the two programs (A1, A2, A15, T7, T8, A5, T15, T11, A9, A11, T13). Good relationships (T1, T3, T5, T16, A10, T12), the right attitude (T2, T6, A8, A12), and friendships (T6, A7, A9) were also noted as factors that impacted their collaboration. One respondent stated, "It has been a personal trait that I have tried to achieve because in my home county as a kid it was not always a good relationship" (A8). The importance of attitude was illustrated in the statement, "All of us have the right attitude and feelings about what is supposed to happen in the county" (T2). As noted by one respondent, "We acknowledge that each individual program is helpful to the education of the students" (A2). Another stated that the reason they are able to collaborate is that they have a "common goal of what we do is for the good of ALL students" (A15). An assessment of focus group responses in this area was similar, with both teachers and agents agreeing that their collaboration efforts work because they are directed towards the success of the students for whom they are working (T7F, A14F, A10F, T8F, A12F, T11F). As one respondent stated, "I am there for the kids" (T11F). Focus group participants added that the "sharing of resources and kids was important to understand" (T7F).

Barriers to successful collaboration

Respondents provided insight into barriers that prevent collaboration. The most commonly listed barrier was time (A1, T1, T3, A2, T6, A4, T8, T17, T11, T12) and was noted by ten respondents. Additional barriers included: conflict of event dates between groups (A1), wrong people in positions (A15), personality conflicts (A5), individuals that prefer to work alone (T15), size of county (A10), and weak relationships (A13). One respondent stated, "Some counties do not work together – it is a competition instead of collaboration" (T1). Focus group

respondents added lack of communication (T11F, T10F), fear of change (T7F), and inexperience in understanding the benefits of collaboration (A3F) as examples of barriers. As shared by one respondent, "People getting caught up in their own deal" (T10F) can prevent successful collaboration due to the lack of communication that takes place.

Guided questions in the focus group session identified specific settings of programs and experiences of participants when considering barriers to collaboration. When distances between agents and teachers were larger due to rural location, collaboration was more difficult (T11F, A14F). However, in dense urban areas with a number of schools for one agent to serve, collaboration was identified as being difficult as well (A10F). One focus group participant went on to state that "[With] 23 school districts and over 100 agriculture teachers, sometimes I don't even get to know all the teachers in my area before they move on and another comes in"(A10F). Thus, turnover in position was revealed as an additional barrier to collaboration.

Conclusions & Implications

Based on the findings of this study, both agriculture science teachers and Extension agents in [state] see collaboration as both a necessity and a benefit, not only for each group of adults, but most importantly for the children involved in each youth organization. Agents and teachers reported collaboration as a method of building lasting professional relationships as well as personal friendships which will further strengthen collaboration efforts. The areas articulated by Mattessich and Monsey (1992) that can influence collaboration in regard to environment, communication, purpose, and resources were identified by the respondents as influencing collaboration; however, the areas of membership characteristics and process/structure were not as evident in these findings.

Definitions of collaboration

Based on the finding that respondents share similar views regarding the definition for collaboration, it was concluded that agriculture science teachers and Extension agents in [state] who are perceived as collaborating recognize the importance of the team effort needed for successful collaboration. The implication exists that if others had a better understanding of what it means to collaborate, collaboration efforts could increase.

Areas of collaboration

Based on the areas of collaboration identified by respondents (i.e., preparation of judging teams, livestock projects, programming efforts, leadership activities, workshops, and planning efforts), it was concluded that "need" plays a key role in facilitating collaboration. Each of the areas mentioned in regard to collaboration serve a specific need at the individual level. Implications exist for leadership striving to encourage collaboration through joint efforts that meet well-defined needs of both groups.

Major factors influencing collaboration

An important finding of this study related to the "awareness of common goals" expressed by respondents from both groups studied. It was concluded that this awareness is influential in encouraging collaboration. When teachers and agents can work together, there is a greater opportunity to build relationships and collaborate professionally. The finding that characteristics such as "good relationships," "the right attitude," and "friendships" lead to improved collaboration is not surprising. However, it was concluded that facilitation of collaboration is one that requires a personal touch and is something that cannot be mandated but rather encouraged through the development of relationships and increased understanding.

Barriers to successful collaboration

Although agents and teachers see collaboration as important and beneficial, these individuals also see barriers to collaborating and roadblocks to the progress of establishing positive working relationships. Teachers and agents reported "time to collaborate" as the most significant barrier to successful collaboration. Additionally, when agents or teachers are located too far away from one another or when there are multiple schools in a county, collaboration efforts among groups is jeopardized or simply does not occur. For some, there is a lack of willingness to work together, and for others, competing to attract the brightest children to their program can cause collaboration efforts to fail. Realistically, not much can be done in regard to time and personality; however, it was concluded that it is critical to recognize the role that these elements play in collaboration so that appropriate actions can be put in place to support collaboration efforts.

Recommendations

Based on these conclusions, several recommendations for successful collaboration can be made utilizing the feedback from both agents and teachers. Ricketts and Place (2005) explored individual perceptions of cooperation and, based on their findings, recommended activities such as joint preparation activities and educational activities for agents and teachers to learn about each other's professions. The findings of this study further support this recommendation. Career and Technical Education leaders would benefit from creating activities that introduce the benefit of each group and how each group can complement the others' efforts.

It is further recommended that leaders among both groups investigate scheduling similar activities such as livestock shows, workshops and general meetings in ways that benefit both groups. At times that would mean scheduling activities in a way that would not conflict with the other group, and at other times that would mean purposefully scheduling activities together in order to encourage collaborative efforts. These actions could promote working relationships and shared interests among agents and teachers. A recognition of scheduling of activities not only promotes professional working relationships and possible friendships, it aides in alleviating the amount of time an agent or teacher has to complete particular tasks at hand and also recognizes the role of those involved in each organization. These actions might also be able to address the issues shared regarding "lack of time."

An additional recommendation relates to in-services or workshops specific to the topic of collaborating with one another for incoming agents and teachers. Training on the benefits of

collaborating could be emphasized to help teachers and agents further embrace the concept. During said training, introductions to agents and teachers in the counties that individuals will be working in could serve to speed up the process of getting to know the existing community of agents and teachers. In addition, current collaboration efforts could be shared to further the understanding of the working community already in place.

Recognizing successful collaboration efforts at county meetings, teacher meetings or banquets can also help promote collaboration among agents and teachers. It is therefore also recommended that leaders within these organizations schedule events or seek out appropriate times to recognize positive collaboration efforts or programs that further promote successful work among the organizations. Perhaps developing a method of tracking achievement in collaboration would further promote individuals involvement in collaborating with other agriculture teachers or Extension agents. At a time when budgets are tight and staff numbers are low, the field of Career and Technical Education can benefit from an increased focus on collaboration.

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