LEADERSHIP EDUCATION RESEARCH: DO METHODS MATTER?

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Abstract

Scope and Method of Study: The purpose of the study was to determine the impact of an agricultural leadership program on rural community development beyond self-report survey data typically collected for program evaluation. Participants in the study were graduates of the program from 1982 to 2002 (*N*=290). Quantitative and qualitative research methods were used. Each participant was asked to complete a then-post survey that addressed areas of knowledge related to rural community development, if participants were acting as change agents, knowledge of community needs, and leadership role in community improvement. Paired samples t-test and Chi-Squared tests were used to describe the data. Additionally, extreme case sampling was used to identify eight participants for face-to-face interviews.

Findings and Conclusions: In spite of quantitative findings of change in knowledge, skills, and behavior, qualitative findings did not reveal important changes in skills or behavior related to leadership after completing the program. It was evident through the interviews that participants had not made an impact on community development. The program was found to be an awareness program only and was marginally successful in integrating rural community development process into the program. It was concluded that participants were not acting as change agents, and the program was not developing leaders to meet community needs. The participants were taking a minimal leadership role in improving their communities, bringing into question the data collection methods when in-depth interviews trump survey results.

Introduction

Agricultural leadership programs have a 70-year history in the United States. There is a need for leadership programs that teach citizens how to cope with the barrage of change in the rural environment. In particular, citizens must be educated and prepared with essential knowledge, skills, and abilities in order to assume leadership positions that concentrate on the concerns of rural America. The current array of agricultural leadership programs demonstrates a significant societal investment towards the important goal of fostering community participation

by rural citizens (Rossing & Heasley, 1987). Effective rural community development (RCD) is dependent on local leaders' knowledge, skills, and willingness to assume key roles in the development process (Mulkey, 1989).

Realizing the need to train more leaders to improve the quality of life for rural citizens, a major land-grant university in the southwest founded an agricultural leadership program in 1982. The goal of the program was to teach adults (ages 25-45) involved in agriculture or agribusiness leadership skills to impact policy at local, state, and national levels. Ten classes of approximately 30 participants each had been completed at the time of the study. The program objectives included 1) increasing participants' awareness of the agricultural industry, 2) expanding participants' understanding of U.S. economic, political, cultural, and social systems, 3) increasing participants' ability to analyze and react to complex problems affecting rural communities, 5) increasing participants' leadership involvement and activities at the local, state, or national level, and 6) helping participants increase and use their skills to solve community-based problems.

The program for the most recent class, held between August 2000 and March 2001, consisted of 13 seminars, a seven-day trip to Washington, D.C., and a two-week trip to New Zealand in March 2001. The weekend seminars (Friday afternoon to Sunday evening) focused on personal development issues, tours of agricultural research facilities, tours of specialty agricultural enterprises, tours of the state capital and discussions with state leaders, visits with agricultural association leaders and media personalities, visits to farm shows, and the future of rural America, including economic and demographic trends in the state.

A review of the literature found that most evaluation studies of agricultural leadership programs were limited to documenting claims via self-report survey methods (Bolton, 1991; Howell, Weir, & Cook, 1979; Lee-Cooper, 1994; Olson, 1992; Whent & Leising, 1992). Few evaluation studies triangulated the data with follow-up procedures involving multiple methods (Rohs & Langone, 1993). Therefore, this study adds to the literature by documenting the impact of one adult leadership program on rural community development (RCD) using participant self-report data (mail survey) and face-to-face interviews as measures for understanding the program's outcomes.

Purpose of the Study

Given the importance of effective leadership to rural community development processes and the challenges associated with survey data, the study asked the following questions:

1. Did the agricultural leadership program contribute to developing leaders for community development?
2. Did participants take an active role in improving their communities after completing the program?
3. Was there a difference in the findings based on the type of data collected (survey vs. interview) in determining program effectiveness?

Methods for Data Collection and Analysis

The population for the survey were all graduates of the program from 1982 to 2001 (*N*=290). A census was used for the survey based on the database kept by the director. Three individuals were excluded from the study, due to death (*n*=1) and wrong addresses (*n*=2).

Three data collection techniques were used for the research: 1) a then-post survey, 2) open-ended questions on the survey, and 3) face-to-face interviews with eight participants. Of the 125 participants who returned the survey (43% response rate), eight supplied extreme cases regarding the positive impact that the program had made on them in regard to integrating RCD processes into the program. Based on the survey responses, the individuals exemplified model change agents within their communities. Therefore, the sample for the face-to-face interviews was purposefully selected from subjects who completed the survey using a process known as *extreme case sampling*. Extreme case sampling involves people with unusual characteristics. In this case, the eight individuals were chosen based on their above average self-reported understanding of and commitment to RCD.

Survey Methods

An original survey was developed for the study based on Pigg's (2001) work. The instrument was a then-post design with Likert-type scales. Respondents were asked to read each question, reflect on their knowledge or behavior before entering the program (then), and rate themselves accordingly using a Likert-type scale. A second column adjacent to the first contained an exact copy of the scale and asked the respondent to reflect on their knowledge or behavior after completing the program (post) and rate themselves a second time. The ratings included strongly agree, agree, disagree, and strongly disagree and were scored 1-4, respectively. Not sure/not applicable was coded 0 for the analysis. The two scores were compared using a t-test to determine differences in perception from before and after the program at a single point in time. The Cronbach coefficient alpha for internal consistency for all survey questions was calculated at 0.96.

The then-post design was chosen to control for several challenges to validity and reliability, including *overestimation of changes in knowledge* and *response-shift bias* among participants. When pretest-posttest information is collected, actual changes in knowledge and behaviors may be altered if the participants overestimate their knowledge and skills on the pretest. Similarly, pretest overestimation is likely if participants lack a clear understanding of the attitude, behavior, or skill the program is attempting to affect (Pratt, McGuigan, & Katsev, 2000).

Changes in participants' frame of reference due to the program is called *response-shift bias* (Pratt et al., 2000; Rohs, 1999). To avoid this source of error for self-report surveys, a then-post method was used to collect retrospective data at the conclusion of the program as participants rated themselves within a single frame of reference and at a single point in time.

Although the then-posttest controls for response-shift bias and overestimation, other challenges to validity and reliability arise such as *memory-related problems, social desirability responding,* and *effort justification* (Howard, Millham, Slaten, & O'Donnell, 1981; Pratt et al.,

2000; & Sprangers, 1987). Evaluators using retrospective tests must consider memory-related problems that influence the recall process. Clarifying a defined period, such as "since you began this program," may facilitate recall (Pratt et al., 2000). When using retrospective tests, instead of representing the accurate treatment, they represent impression management as a possibility (Sprangers, 1987). *Effort justification* occurs when subjects do not experience any benefit of the training, and in an attempt to justify the effort spent, adjust their initial pre-treatment ratings in a downward direction or their post-treatment in an upward direction (Sprangers, 1987). Control for *memory-related problems, social desirability,* and *effort justification* was attempted by using objective measures (Pratt et al., 2000; & Sprangers, 1987). Interviews were also used to probe participants on exact behavior changes to triangulate results.

A panel of experts consisting of four faculty members with expertise in leadership education or RCD processes confirmed content, construct, and face validity of the survey. A pilot test was conducted with 30 randomly selected participants from the population. Seventeen people returned the pilot survey. The pilot surveys were analyzed and minor revisions were made. Because only minor revisions were required, the pilot data (n=17) were pooled with the final survey data (n=108) for a final response rate of 43% (n=125). The Dillman (2000) four-phase mailing approach was used for both the pilot survey and the final survey.

The double-dipping method was used to determine differences between the respondents and non-respondents (Linder, Murphy, & Briers, 2001). Along with an early to late respondent comparison, a random sample of 10% (n=20) of the non-respondents was administered portions of the survey via telephone. The two groups were compared on gender, employment status, level of educational attainment, and marital status with a Pearson Chi-Square. There were significant differences between non-respondents and respondents in gender, employment status, and marital status. There were no significant differences between the early to late respondents on any variable. Thus, results of the study can only be generalized to the survey respondents.

Survey data were analyzed using SPSS® v. 8.0. An alpha level of .05 was set *a priori* to determine statistical differences among variables. The statistical tests used were descriptive, t-tests, and Cohen's *d* effect size. Likert-type data is ordinal in nature; thus, it is acceptable and practical to treat it as interval data and subject it to statistical analysis as long as care is taken in the interpretation of the results (Kerlinger, 1986). Inferential statistics were used as a guide to understanding the relationships between variables. The effect size measures the magnitude of the treatment effect (Cohen, 1988). Measures of strength of association and effect size specify the practical significance of the research.

Qualitative Methods

Eight people were selected to be interviewed based on their survey responses for extreme cases, which demonstrated an in-depth knowledge of RCD processes. The participants were telephoned and asked to participate in an interview. The researcher drove to their places of business and conducted the interviews in their respective offices. The interviews followed a semi-structured outline. Probing questions allowed the researcher to explore emerging themes and to confirm hypotheses (Merriam, 1998).

To establish validity for the interviews, each interview was recorded and transcribed. The transcriptions were sent to the interviewees to validate their statements (Merriam, 1998). The

qualitative analysis software program ATLAS.ti® was used to organize the data from the open-ended survey questions and the interviews. Both data sets were analyzed and reported following Creswell's (1998) procedures:

1. *Organization of data.* The interviews were recorded and transcribed, cleaned by a research assistant who listened to the interview and read the transcript to check for accuracy. The text was then loaded into the qualitative data program ATLAS.ti®.
2. *Categorization of data.* The data were clustered into meaningful groups (coded) using ATLAS.ti® as an organizational tool.
3. *Interpretation of the data.* Statements that fell into like codes were examined for specific meanings in relationship to the purpose of the study.
4. *Identification of patterns.* The data and their interpretations were examined for themes and patterns that characterized the program and allowed the researchers to draw conclusions.
5. *Synthesis.* An overall representation of participants' responses was created where conclusions and recommendations were drawn based on the data presented.

Findings and Conclusions

Respondents' Profile

Survey respondents were married (90%), well-educated, middle class working adults who were civically engaged. One-hundred and thirteen men (90%) and 12 women (10%) responded to the survey. Their mean age was 43 years. The majority (54%) graduated college and 32% had earned graduate credit. Forty-seven percent earned $30-$50,000 annually and 100% voted in the last presidential election. Sixty percent volunteered 5-10 hours per month in social service activities and 69% were involved in 5-10 hours of economic development activities per month. They lived in their communities for an average of 24 years and the average community size was 30,000 people.

Did the agricultural leadership program contribute to developing leaders for rural community development?

Before community leaders can implement desired change, they must have a feel for existing attitudes and perceptions with respect to those factors that impact economic development objectives and outcomes (Williams, 1989). Effective community leaders could also promote community development by determining what leadership styles are needed for change based on their own, and their followers', skills and education (Robinson, 1994). Community leaders should be able to identify problems, assess community organizational structures, develop the necessary capacity, and design a plan for action to address problems (Mulkey, 1989).

The survey findings indicated that respondents believed the program developed them as leaders to meet their community's needs. A paired samples t-test resulted in significant differences for each variable from the then-post survey. The effect size, Cohen's *d,* was 1.79, indicating a large effect size for this construct (Cohen, 1988).

Findings from the eight purposefully selected interviewees were synthesized and conclusions are presented to triangulate the survey findings with additional data sources. Interviewees are represented by numbers presented in brackets to protect their identity.

Successful community development efforts are largely dependent on locally generated knowledge of how the community works. The development process includes needs assessment, community analyses, consensus building, and goal setting. Where these activities exist, communities are more likely to be actively engaged in the process of discovering and understanding their needs (Mulkey, 1989).

All eight interviewees were asked directly if they could identify their communities' needs [1, 29, 90, 134, 168, 208, 272, and 290]. Three participants stated that the program showed them who they needed to contact so those needs could be identified [1, 168, 290]. These participants believed that the program focused on how to find information, not how to use the information to implement change. "The one thing I learned in [the program] is I don't have to have those skills (RCD); I just need to know where to go to get them" [168]. "The groundwork was laid so we did learn whom we needed to talk to so we can find out those needs" [290].

One of the most important components of community leadership is the ability to generate collective action at the community level (Heekathorn, 1993). A central concept in the RCD literature emphasizes the importance of local participation as a means of strengthening the community (Martin & Wilkinson, 1985). One participant believed the program taught him to seek political power at the national level rather than work for development at the local level. "It probably helped me a lot more at the state and national level than on a community level. Basically, a lot of the things have a reflection on me and what's going to pay off on me is not as much at the local level as a state or regional level. The program identified more in what to do in the political process, more of how to sequester groups to help you with some of your problems and how to look at some groups that have similar causes to try to get those groups together because more numbers mean more votes for elections and people get their way" [90]. Participant 90's preception that the program helped more at the state and national level is inconsistent with the literature concerning effective RCD.

Three participants [29, 168, 272] believed they had a good understanding of their communities' needs before entering the program. These participants did not believe the program changed their knowledge of community needs. One interviewee did not think the program gave him the skills to identify needs in his community [134].

The participants were asked what the program could do to teach them to learn how to identify their community's needs. Two participants believed that the seminars should be changed to develop skills rather than focus on awareness [134, 208]. "Bring the whole aspect of community development into the program. Change the focus of the program to teach participants how to identify what the needs of their communities are; talk more about the different aspects of local government and organizations" [208].

Before community leaders can implement change, they must have a feel for existing attitudes and perceptions with respect to those factors which impact development (Williams, 1989). After reviewing the literature, it was concluded that if the program were developing leaders to meet community needs, then participants would know how to identify those needs as

well as design and implement action plans for community development. This was not the case among the eight interviewees. Therefore, the program did not contribute to developing leaders for rural community development as participants were not equipped with the knowledge or skills to identify their community's needs. The program did, however, increase awareness that communities have needs.

Did participants take an active role in improving their communities after completing the program?

The importance of participation as a means of strengthening local communities cannot be overstated as community leaders provide the basis for improving the quality of life in rural America (Martin & Wilkinson, 1985). People must not only get involved, they must also recruit people from racial, ethnic, and socioeconomic backgrounds who represent the community (Beaulieu & Smith, 2000).

The survey findings indicated that respondents believed they were taking an active role to improve their communities. A paired samples t-test resulted in significant differences for all but one variable from the survey. The effect size, Cohen's *d*, was .67, indicating a large effect size for this construct (Cohen, 1988). The insignificant variable was, "I am very active in making efforts to improve the well being of the disadvantaged in my community" ($p=0.15$).

The survey findings also indicated that respondents believed they were listening to people with different socioeconomic status within their communities. A paired samples t-test resulted in significant differences for all variables from the then-post survey. The effect size, Cohen's *d*, was .49, indicating a medium effect size for this construct (Cohen, 1988).

All interviewees were asked specifically what they had done to improve their community since completing the program [1, 29, 90, 134, 168, 208, 272, and 290]. Five interviewees reported they had not been active in their community as leaders [29, 90, 208, 208, and 290]. "I probably have not done as much as I potentially could in developing this community" [90]. "I am not taking on as much as I probably should have" [29]. "I am not very active as far as a community leader in community organizations. I hope that I have become more active in my community in more of a support role. I don't feel like I came home and became a driving force to develop local communities [after the program]" [290]. One interviewee believed he was more involved in leadership roles before the program than after [208]. He believed his opinions were drastically different from other people and that the only leadership role he could assume was to lead by example and change his agricultural operation to be more sustainable [208].

Involvement at the local level was problematic for one participant [90]. He did not believe that graduates from the program could effectively be involved in community organizations because the graduates are more developed and better-quality leaders than ones in local community organizations who have not participated in the program. "Getting involved in the local organizations is probably a loser. The people who graduate from the program are so far ahead and the local agenda is so slow.… The people who graduate from [the program] are motivated by what helps them and their families" [90]. Another interviewee [168] believed the program stressed involvement at the state level instead of the community level.

Two participants have taken on leadership roles in regional organizations [1, 134], and one participant [168] has started working on developing local projects to benefit the community. “I have taken on new leadership roles in regional organizations, I wouldn’t have [done this] had I not gone through the program, but I could make more of an impact on rural development if I had more skills in managing change, strategic planning, and needs assessment” [134].

Networking opportunities was the most important aspect of the program for all the interviewees [1, 29, 90, 134, 168, 208, 272, and 290]. The exposure to different people and organizations put participants in contact with people who could assist them in RCD efforts. However, they did not believe they were currently using their networks to the fullest extent possible at the time of the interview [1, 29, 90, 134, 168, 208, 272, and 290].

Qualitative data from the open-ended questions on the survey were used to triangulate findings. Sixty-four respondents (51%) answered the question on the survey: “What was most beneficial to your community development efforts?” Eighteen of the sixty-four respondents (28%) believed that networking was the most beneficial thing they learned in the program. The networks offered exposure to other people and were valuable for direction and support [15, 179].

Based on the interview responses, most participants were not making changes in their communities, nor had they used their networks for community improvement. Participants reported that information gained in the program was not effectively used because they did not have the necessary skills to promote change.

The RCD process includes problem and needs identification, assessment of community organizational structures, developing capacity, and implementing programs to address issues (Mulkey, 1989). Community leaders should have adequate knowledge and skills to carry out these functions. One of the most important components of community leaders is the ability to mobilize resources at the community level (Heekathorn, 1993). The RCD literature emphasizes the importance of local participation as a means of strengthening the local community (Martin & Wilkinson, 1985). When asked directly about involvement in RCD activities, participants reported not being active in any phase of community development. Therefore, it was concluded that participants had not taken an active role in improving their communities after completing in the program.

Was there a difference in the findings based on the type of data collected (survey vs. interview) in determining program effectiveness?

All variables for the then-posttest survey were statistically significant at the .05 level, indicating that participants perceived they had gained knowledge and skills from the agricultural leadership program. However, when the eight purposefully selected participants were asked about their understanding of rural community development processes, it was found that they were not participating actively in community development activities, thus, they were not acting as change agents in their communities.

When comparing the findings from the survey data vs. the interview data, it can be concluded that the survey respondents *overestimated* their knowledge and skills regarding RCD processes on the survey (Pratt et al., 2000) due to *social desirability* (Howard, et al., 1981) and *effort justification* (Sprangers, 1987).

The study should alert other researchers' attention to the fact that self-report survey methods of evaluation may be inadequate for determining program impacts. Participants could not authenticate actual changes in behavior made after participating in the program. Survey-based studies may actually be documenting participants need for *effort justification* rather than tangible program impacts.

Recommendations, Discussion and Implications

The agricultural leadership program did create awareness among participants regarding the importance of RCD as stated in the objectives; however, it failed to move participants into action by producing community leaders. The qualitative data suggested that awareness was inadequate for participants to lead community development efforts as participants lacked both knowledge and skills for effecting change. Program designers should move beyond providing an awareness only program and provide opportunities to increase participants' skills in RCD processes by integrating more seminars and workshops into the program that focus on the mechanics of RCD. These experiences should also focus on new development opportunities where participants can engage in discussions with successful community leaders.

Townsend (2002) reported that one-shot programs develop awareness but were not effective in changing behavior. When an extended and sustained leadership class was provided, attitudes and leadership behaviors changed after the class. The agricultural leadership program used in this case study provides the long-term contact needed to change behavior; thus, the potential for incorporating knowledge and skill development exists but is currently under utilized. Program designers should integrate a leadership project or practicum into the program. Asking participants to create and implement a plan for community development within their home towns would serve to develop leadership skills, needs assessment skills, change agent skills, and increase participant impact on community development, at least in the short term. By experiencing success in a community development project, participants may also become more motivated to repeat the experience and become truly effective leaders rather than bystanders in their communities.

Other methods to determine participant impact on community development should be used to triangulate self-report survey data such as observation, interviews with participants and other community members, and collecting data other than participant satisfaction with the program. Program evaluators should also considering abandoning self-report survey research in favor of more credible data if funds for evaluation are limited. The financial and human resources used in developing the survey for this study could have been used toward randomly selecting more interviewees for face-to-face interviews as this study found that the survey data was invalidated by the in-depth interviews.

Recommendations for further research include conducting a longitudinal study of the program to document changes in the program based on the initial findings using interviews and observations as primary data sources. Also, the program designer should incorporate a participant-centered documentation process of the participants' impact on community development for internal evaluation purposes.

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