

When Findings Collide: Examining Survey vs. Interview Data in Leadership Education Research

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Abstract

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 were used to describe the data. Additionally, extreme case sampling was used to identify eight participants for face-to-face interviews.

In spite of self-report survey 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, 4) increasing participants' leadership involvement and activities at the local, state, or national level, and 5) 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). These studies found that participants were satisfied with their experience, but failed to document program impacts in terms of community improvement. 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 sought to determine the impact of an adult agricultural leadership program on rural community development using a mixed-methods approach. Specifically, the objectives of the study were to:

1. Determine if the leadership program taught rural community development processes to participants.
2. Determine if the graduates applied lessons learned in the leadership program to serve as change agents within their communities.
3. Determine if there were difference in the findings based on the type of data collected (survey vs. interview) in determining program impacts.

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 0.96.

The then-post design was chosen to control for several challenges to validity 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 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 (Lindner, 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 (Cohen, 1988).

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

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 leadership program teach rural community development processes to participants?

The survey findings showed that participants had significantly greater awareness of the rural community development (RCD) process after participating in the program. A paired samples t-test resulted in significant differences for each variable from the then-post survey (Table 1). The effect size, Cohen's *d*, was 1.58 (Cohen, 1988).

Table 1.
Paired Samples (Then-Post) t-test Results

| Survey Question | <i>n</i> | Then Mean | Post Mean |
|---|----------|-----------|-----------|
| I know how my community fits on a global level. | 125 | 2.66 | 1.74* |
| I envision new possibilities for my community. | 124 | 2.81 | 1.93* |
| I strive to make the community better for everyone. | 125 | 2.31 | 1.67* |
| I appreciate local business. | 125 | 2.06 | 1.50* |
| I have pride in my community. | 125 | 1.98 | 1.69* |
| I understand the community development process. | 124 | 2.85 | 1.80* |
| I understand the importance of community development in rural Oklahoma. | 123 | 2.58 | 1.41* |
| I understand why some rural Oklahoma communities are diminishing. | 124 | 2.47 | 1.35* |
| I know how important quality education is to the success of rural Oklahoma communities. | 125 | 2.22 | 1.41* |
| I know how important quality jobs and careers are to the success of rural Oklahoma communities. | 125 | 2.24 | 1.34* |
| My involvement in social services is a high priority. | 124 | 2.87 | 2.35* |
| My involvement in economic development in my community is a high priority. | 12 | 2.76 | 1.94* |

*Significantly different.

Scale: 1= Strongly agree, 2=Agree, 3=Disagree, 4=Strongly disagree

Interview Findings. Findings from the eight purposefully selected interviewees were synthesized and claims are presented to triangulate the study with additional data sources. Participants were assigned numbers to protect their identity; thus, a number in the text or in brackets refers to a unique individual.

The community development process includes: problem identification, assessment of the community's organizational structure to address the problems, developing the necessary capacity, and the design and implementation of action programs to address problems (Mulkey, 1989). After reviewing the literature, it was determined that if the leadership program were developing leaders with adequate knowledge of RCD processes, the interviewees would be able to identify new economic and social development opportunities for their communities. The participants were not able to articulate new opportunities for their communities. Therefore, as a result of the program, the participants did develop an awareness of RCD processes, but did not possess adequate knowledge or skills to act as change agents.

All eight participants were asked what they learned about RCD in the program [1, 29, 90, 134, 168, 208, 272, 290]. They all agreed that there must be communities to support agricultural families and community development is necessary for rural areas because of out-migration to urban areas.

Each interviewee was directly asked what s/he learned about the RCD process in the program. The answers included statements such as the program made them aware of rural development, and how important local communities were for rural development. A response to knowledge of rural development was "the whole experience drove the point home that our local communities are very important to the survival of rural agriculture" [290]. When participant 290 was asked to expand on his knowledge of RCD, he stated, "we heard from a lot of agricultural support industry type of people... I have some knowledge of rural development, but I don't necessarily have an understanding of the needs of the communities we visited."

Understanding why RCD processes is important and the challenge it presents for communities was an essential element for increasing awareness of RCD for two participants [29, 134]. The interviewer asked participants 29 and 134 if they would be able to work in RCD with the knowledge they gained from the leadership program. Both participants acknowledged that they could not, but would have liked to have had more RCD seminars in the program. One of the eight interviewees believed the leadership program helped him to understand that, "agriculture is not the driving force behind rural America anymore. It is going to take younger leaders to bring in the other 60% of the economic activity to rural communities" [1]. Participant 1 was the only person to understand that economic development programs extend beyond agriculture and that agriculture is not the driving force of the economy in all rural communities (Knutson, Penn, & Flinchbaugh, 1998).

Exposure to other communities working in development efforts gave five participants a visual picture of RCD [29, 168, 208, 272, 290]. Seminars such as these were beneficial in

increasing participants' awareness of RCD, but did not offer specific instruction in the process.

Five interviewees perceived the major benefit of the leadership program as helping agriculture by focusing on agricultural production. They were content with the awareness of RCD gained from the program because the leadership program "is an agricultural program" and not perceived to be a RCD program [1, 90, 168, 272, 290]. "This is an agricultural program, so we spent two to three days doing a lot of traveling and talking to a lot of agricultural folks; it [RCD] wasn't the primary focus of the program" [290].

Written qualitative data from the open-ended survey questions were used to triangulate the interview findings. Sixty-four respondents (51%) answered the open-ended question: What was most beneficial to your community development efforts? Eight (12%) of the sixty-four respondents [18, 19, 27, 134, 150, 177, 217, 240] believed that knowledge of RCD was beneficial to development efforts. One respondent did not believe that RCD should be expected from an agricultural leadership program. "I did not understand community development to be a part of program's stated goal to develop effective *spokespersons* for agriculture" [197].

Five of the interviewees [29, 208, 134, 272, 290] thought that more seminars in RCD would give them a more in depth understanding of the concept. More community examination and talking with community leaders were specifically mentioned by three participants as ways to increase their RCD abilities [29, 208, 272].

According to participant 29, general awareness of rural development was not enough. The interviewee called for the leadership program to provide a very detailed approach in specific areas of community leadership. He wanted the participants to be aware of other similar communities who are utilizing RCD processes. According to him, after going through the program, the participants should be able to use their resources, not only invite new business to their communities, but also improve upon the potential of the community.

Based on the responses from the interviewees, it was concluded that the participants had a general awareness of RCD processes but lacked knowledge and skills for initiating change. The participants did not have an in depth understanding of the development possibilities for their communities. Half of the participants interviewed would like to see the focus of the program shift to meet the current and future needs of people in agriculture and rural communities [208, 272], and skill building on how to manage and facilitate change [29, 134, 208].

Mulkey (1989) claimed that leaders should have adequate knowledge and skills of community development processes. Mulkey (1989) further argued that the process of development at the community level is fundamentally different from simple community growth measured in economic or demographic terms. Heekathorn (1993) also stated that one of the most important components of leaders is their ability to mobilize resources at the community level.

Did the graduates apply lessons learned in the leadership program to serve as change agents within their communities?

The survey findings showed that program participants had a significantly different self-perception of being able to serve as change agents within their communities before and after the program. The specific survey questions that operationalized this research question dealt with promoting change in communities. The survey findings indicated that participants believed they were serving as change agents within their communities, except for actually knowing how to bring about change (Table 2).

A paired sample t-test was run on all survey questions. Results revealed that all then-post questions except, “I know how to change things in my community”, were significantly different. The Cohen’s *d* of 1.18 illustrates a large effect size for this variable (Cohen, 1988).

Table 2.
Paired Samples (Then-Post) t-test Results

| Survey Question | <i>n</i> | <i>Then Mean</i> | <i>Post Mean</i> |
|--|----------|------------------|------------------|
| I think that it is the responsibility of every citizen in my community to reach its goals. | 125 | 2.47 | *1.89 |
| I believe that citizens have the same responsibility as government officials to reach community goals. | 124 | 2.46 | *1.78 |
| I aggressively work at developing new local leaders. | 122 | 2.94 | *2.07 |
| I regard change as a source of vitality | 124 | 2.53 | *1.69 |
| I know how to tackle problems in systematic ways. | 124 | 2.44 | *1.71 |
| I seek out different perspective to generate new ideas. | 123 | 2.54 | *1.50 |
| I know how to change things in my community. | 124 | 2.86 | 2.32 |
| My involvement in improving environmental conditions is a high priority. | 124 | 2.67 | *2.15 |
| I am actively involved in nonprofit organizations. | 124 | 2.34 | *1.81 |

*Significantly Different.

Scale: 1= Strongly agree, 2=Agree, 3=Disagree, 4=Strongly disagree

Interview Findings. Hughes (1998) and Williams (1989) suggested that leadership programs should teach participants to become change agents in their communities. Change is difficult in communities because people are resistant to change and construct barriers to prevent discussion and action promoting change (Hughes, 1998). Community leaders must be equipped to handle these types of situations. Community leadership is about building better communities. Before community leaders can implement change, they must have knowledge of existing attitudes and perceptions with respect to those factors that impact economic development objectives and outcomes (Williams, 1989). If the leadership program were developing change agents, the interviewees would be able to identify the change process and would be actively promoting change within their communities. This was not the

case; therefore, the program increased awareness of change agent status among participants, but did not have an impact on promoting change within communities.

Eight participants were interviewed [1, 29, 90, 134, 168, 208, 272, 290]. Out of the eight interviewees who were asked how the leadership program altered their feelings on change, two did not believe it altered their feelings on the concept of change [134, 168]. Six participants responded that the program did affect their perceptions toward change positively by increasing awareness regarding its importance [1, 29, 90, 272, 208, 290]. They all understood the importance of change for the survival of rural communities.

The interviewees were asked if, after the program, they could promote change. Three participants stated that they believed they could promote change after participating in the program [1, 272, 290]; three participants did not believe the program equipped them to promote change [29, 143, 208], and two participants believed they were not altered as a result of the program in regard to change [90, 168].

Interviewee 272 believed the only way he could promote change was to communicate new ideas to members of his community. While involved in the program, 272 would come back from seminars motivated to promote change, but after the program, the motivation tapered off. “The only thing I can do to promote change is to initiate the idea of change, plant the seed to other community members. We would always come back so fired up. Since the program ended, I have not had enough time to devote like I should” [272].

Participant 290 believed he could promote change, but did not follow a specific model to do so. When 290 was directly asked what impact he had made promoting change in his community, he did not believe he had made an impact affecting change. “I can promote change in my community, but I do not follow a particular agent of change...and I have not had a big impact promoting change in my community”. When 290 was asked why he has not had a big impact promoting change in his community, he stated, “I think it is because nobody has asked.”

When 29 was asked about promoting change, he reflected on his classmates. He stated, “I don’t think they [classmates] ever learned or they ever felt comfortable enough even after it was over to be a type of catalyst to create change in their own community” due to the lack of knowledge of resources and potential development opportunities in their communities. He went on to say that he did not believe that his classmates grasped what was available, or what they could achieve in their communities.

Skill building to manage change would have enabled three participants to encourage change [29, 143, 208] if it were taught in the program. “I didn’t pick up that is what they were trying to teach. I could have used more in that area...I don’t know how to start off on my own, how to do it, and what it is you do [to promote change]. I have my ideas, but I still need someone to say step-by-step what to do. I don’t feel equipped” [143].

Four participants believed that the program needed to introduce more alternative views regarding sustainable agriculture and the environment into the seminars [29, 168, 208, 272]. “It is painful for me to say, but I think the program directors should look beyond agriculture when developing the guidelines for the program. It was clearly more focused on the agricultural aspects of each community” [29]. “I think the participants need to be presented with the ideas of alternative practices by someone non-threatening” [208]. “Introducing these different views and ideas would help participants “to have more understanding of the bigger picture” [168].

Community development requires new behaviors and action. Breaking with past habits and established ways of doing business often requires an innovator, or a set of innovators, willing to assume risk and do things differently (Cornell, 2000). Hughes (1998) suggested that leadership programs should teach participants to become change agents. He further concluded that change is difficult in communities because people are resistant to change and erect barriers to prevent discussion and action promoting change. Community leaders should be able to deal with these issues to promote change.

Based on the responses from the interviewees it was concluded that the leadership program is not developing change agents that are capable of bringing about change in their communities. The interviewees did have an awareness of the importance of change, but they did not know the processes or possess the skills to becoming a change agent. Of the three interviewees who believed they could promote change [1, 272, 290], two reversed their thoughts during the course of the interview by stating they did not believe they had made a noteworthy impact promoting change in their communities [272, 290]. Three interviewees did not believe the leadership program gave them the necessary skills to promote change in their communities [29, 143, 208]. Most respondents were uncertain when directly asked what they learned about promoting change.

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-post 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).

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.

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.

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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