Building Confidence in Agricultural Leaders

Justin C. Patten
Agricultural Science Teacher
Snake River High School
922 West Highway 39
Blackfoot, ID 83221
Phone: 208-684-3601
Fax: 208-684-3074
pattjust@snakeriver.org

Lori L. Moore (contact author)
Assistant Professor
University of Idaho
Agricultural Extension and Education
P.O. Box 442040
Moscow, Idaho 83844-2040
Phone: 208-885-6358
Fax: 208-885-4039
lmoore@uidaho.edu

Abstract

This study sought to examine differences in the confidence level of Leadership Idaho Agriculture (LIA) graduates within six program areas in terms of their perceptions before and after participation in LIA. Of the 348 individuals included in the population frame, 246 individuals completed a then-post survey instrument for a total response rate of 70.7%. Significant differences were found between the before LIA and after LIA confidence levels in all aspects of each of the six major areas of LIA (agricultural awareness, networking, leadership, communication, professional development, and the legislative process).

Introduction and Conceptual Framework

According to Whent and Leising (1992), agriculture leaders face three major challenges: urban growth, international trade, and developing close ties within the agricultural industry. "Whether facing growth or decline, rural communities must develop mechanisms for managing the forces of social change which affect them. One such mechanism or resource is an informed, skilled and active group of

community leaders" stated Williams (1981, p. 63). Dhanakumar, Rossing, and Campbell (1996, p. 1) stated, "…rural America's greatest resource is its leaders. They must be able to view change in a broad perspective and be prepared to provide the wise leadership that 21st century challenges demand." In an effort to meet these challenges and develop strong leaders in the agricultural industry, states across the country have developed agricultural leadership programs.

Agricultural Leadership Programs

The W. K. Kellogg Foundation (WKKF) was instrumental is starting agricultural leadership programs. In 1965, it funded the first agricultural leadership program through Michigan State University's College of Agriculture. Similar programs were started in 1970 in California and Pennsylvania, with Montana following in 1971. In 1984, the WKKF dedicated funds to aid states in developing agricultural leadership programs. Twelve additional states and a consortium of six New England states received funding to help establish programs. In 2001, there were 38 agricultural leadership programs, more than half of which were established without WKKF support (W. K. Kellogg Foundation, 2001).
Studies that evaluated individual programs have shown significant increases in confidence of participants in terms of their leadership skills, networking, and agricultural awareness (Bolton, 1991; Kelsey & Wall, 2003; Pigg, 2001; Whent & Leising, 1992; Williams, 1981). In their 2001 report on the legacy of agricultural leadership programs, the WKKF grouped the impact of these programs on alumni into three categories: personal influence, professional growth, and policy and practice involvement. An increase in confidence and personal growth was one of the personal influence benefits specifically identified within the report.

Leadership Idaho Agriculture

The LIA program is "dedicated to preparing leaders in agriculture and rural communities through education and experience" (Leadership Idaho Agriculture, n.d.). The program is conducted over a four month period with approximately 30 participants. Participants spend one week each month in a different location within the state where they attend workshops and seminars, meet with key individuals and stakeholders of agriculture, and tour local agricultural businesses. The researchers, based on the review of literature, knowledge of the program, and discussions with the LIA Director and previous program participants not included in the study, identified six major areas of the LIA program. These six areas provided the conceptual framework for the study. The following operational definitions of each of the six areas were included in the instrument:

1. *Agricultural Awareness* – utilizing presentations to expose participants to issues in and about agriculture, natural resources and rural communities at the local, state and national levels. Tours are used to educate participants about Idaho agriculture in each of the four regions. Information is also acquired about Idaho agriculture through collaboration and discussion between participants.
2. *Networking* – establishing relationships with individuals in Idaho agriculture. These relationships can be within the confines of your respective class, LIA alumni, tour personnel, or LIA presenters.
3. *Leadership* – developing the participant's skills in problem solving, decision-making, ability to promote agriculture, work with different individual personality types, and work in groups.
4. *Communication* – meeting the media, caucuses, extemporaneous and public speeches are required of each participant to help develop and/or enhance their ability to speak in public.
5. *Professional Development* – enhancing the participant's ability to conduct themselves properly in public settings. This objective is accomplished using presentations of etiquette, dressing for success, and introductions.
6. *Legislative Process* – LIA allows participants to experience how public policy is developed. Participants gain from interaction with legislators and state officials in political and social settings.

Purpose and Objectives

The purpose of this study, conducted as part of a larger study, was to determine if the LIA program was successful at increasing the confidence of program graduates. The specific research objective of this study was to:

1. Examine differences in before LIA and after LIA confidence scores of program graduates in the six major program areas.

Methods and Procedures

Population and Sample

The population frame for this study consisted of 348 LIA graduates from the 1993 through 2001 classes. Program graduates from classes prior to 1993 were excluded from the study due to a lack of consistency in the program curriculum and format.

Instrumentation

Data were collected using a then-post survey instrument (Rohs, 1999). The instrument was based on the survey instrument developed by Leising, Whent, and Tibbetts (1991) and modified to fit this study. The section of the instrument used to obtain data about confidence both before and after their participation in LIA and consisted of 37 Likert-type items clustered into six program areas. Participants were asked to respond to each item twice, once based on their perceptions of their level of confidence before LIA and again based on their perceptions of their level of confidence after LIA. The scale ranged from one to five (1=low, 2=moderate, 3=average, 4=above average, 5=high).

Content and face validity of the instrument were established by a panel of experts consisting of university faculty, leadership program coordinators, and former LIA graduates not included in the study. Following data collection, reliability analysis was conducted. Cronbach's alpha was calculated for the then measures (before LIA) and post measures (after LIA) within each of the six LIA program areas. Cronbach's alpha is appropriate for estimating internal-consistency reliability within a scale in Likert format (Isaac & Michael, 1995). Cronbach's alpha for how confident participants felt in each of the six areas before LIA were: α=.84 for Agricultural Awareness, α=.85 for Networking, α=.90 for Leadership, α=.93 for Communication, α=.84 for Professional Development, and α=.69 for Legislative Process. Cronbach's alpha for how confident participants felt in each of the six areas after LIA were: α=.85 for Agricultural Awareness, α=.79 for Networking, α=.59 for Leadership, α=.76 for Communication, α=.82 for Professional Development, and α=.87 for Legislative Process. The overall scale yielded a reliability estimate of .94 before LIA and .93 after LIA. No question could have been removed from the instrument to cause an increase in Cronbach's alpha for both before LIA and after LIA.

Data Collection and Analysis

A cover letter, the instrument, and a stamped return envelope were mailed to all 348 participants. Instruments were coded with individual identification numbers. As completed instruments were received, participants were removed from the database used for future contacts. Three weeks after the initial mailing, replacement instruments were mailed to all nonresponders. In an effort to increase response rate, a final replacement instrument was mailed three weeks after the second mailing to those who had still not responded.

Data were obtained from 246 individuals for an overall response rate of 70.7%. All returned instruments were accepted for use. Because a response rate of 100% was not achieved in this study, nonresponse error was addressed by comparing the responses of early and late responders (Ary, Jocob, & Razawieh, 1996; Lindner, Murphy, & Briers, 2001; Miller & Smith, 1983). Early responders were defined as the first 50% of the respondents and late responders were defined as the latter 50% of the respondents (Lindner et al.). No statistical differences were found. Measures of central tendency including means and standard deviations were used and t-tests were conducted to compare means. The .05 level of significance was selected *a priori* for use in interpreting the data. Effect sizes were calculated using Cohen's *d* (Cohen, 1977). According to Cohen, a *d* value of .2 equals a small effect size, a *d* value of .5 equals a medium effect, and a *d* value of .8 equals a large effect. The pooled standard deviation was used in all effect size calculations (Rosnow & Rosenthal, 1996).

Results

The objective of this study was to examine differences in the before LIA and after LIA confidence scores of program graduates in each of the six major program areas. The participants' change in level of confidence in the program area of agricultural awareness is presented in Table 1. Significant differences ($p<.05$) were found in all four areas of agricultural awareness. In each area, participants reported having more confidence after completing LIA than they did before. The largest change in confidence related to agricultural awareness occurred in the area of awareness of issues facing agriculture in Idaho (M=3.19, SD=0.92 and M=4.48, SD=0.58, respectively). The least amount of change in confidence related to agricultural awareness before LIA and after LIA occurred in the area of understanding of the economic importance of agriculture to the state of Idaho (M=3.79, SD=0.83 and M=4.51, SD=0.59, respectively). A large effect (Cohen, 1977) was found in all four agricultural awareness areas.

Table 2 presents the participants' change in level of confidence in the program area of networking. Significant differences ($p<.05$) were found in all five areas of networking. In each area, participants reported having more confidence after completing LIA than they did before. The largest change in confidence related to networking before LIA and after LIA occurred in the area of the network of people you may contact for help or information (M=2.49, SD=0.84 and M=4.30, SD=0.63, respectively). The least amount of change in confidence related to networking before LIA and after LIA occurred in the participants' ability to network with individuals in volunteer service (M=3.02, SD=0.83 and M=3.76,

SD=0.82, respectively). A large effect (Cohen, 1977) was found in all five networking areas.

Table 1. Participants' indication of the change in level of confidence in agricultural awareness as a result of participation in LIA

Area	Confidence	*n*	*M*	*SD*	*t*	*d*
Basic knowledge about ag. & nat. resources in ID	Before LIA After LIA	241 240	3.47 4.39	0.86 0.57	-17.93*	1.26
Understanding the diversity of Idaho ag.	Before LIA After LIA	241 241	3.37 4.43	0.94 0.59	-17.07*	1.35
Understand economic importance of ag. to ID	Before LIA After LIA	240 240	3.79 4.51	0.83 0.59	-14.27*	1.00
Awareness of issues facing ag. in ID	Before LIA After LIA	243 243	3.19 4.48	0.92 0.58	-21.56*	1.68

*p < .01.

Table 2. Participants' indication of the change in level of confidence in networking as a result of participation in LIA

Area	Confidence	*n*	*M*	*SD*	*t*	*d*
Network of people you may contact for help/info	Before LIA After LIA	244 244	2.49 4.30	0.84 0.63	-30.08*	2.43
Ability to network with individuals in your job	Before LIA After LIA	239 239	3.17 4.10	0.85 0.69	-16.70*	1.21
Ability to network with ind. in your community	Before LIA After LIA	242 242	3.03 3.95	0.82 0.73	-17.11*	1.12
Ability to network with ind. in volunteer service	Before LIA After LIA	241 241	3.02 3.76	0.83 0.82	-13.35*	0.90
Ability to network with people in political setting	Before LIA After LIA	243 243	2.60 4.07	1.09 0.77	-21.55*	1.55

*p < .01.

The participants' change in level of confidence for the program area of leadership is presented in Table 3. Significant differences (*p*<.05) were found between the before LIA confidence means and after LIA confidence means in all nine leadership areas. In each area, participants reported higher confidences after completing LIA than they did before. The largest change in confidence related to

leadership before LIA and after LIA occurred in the participants' ability to promote Idaho agriculture within their community (*M*=2.97, *SD*=0.87 and *M*=4.14, *SD*=0.68, respectively). The least amount of change in confidence related to leadership before LIA and after LIA occurred in the participants' willingness to accept leadership responsibility (*M*=3.43, *SD*=0.95 and *M*=4.43, *SD*=2.03, respectively). Large effect sizes (Cohen, 1977) were found in eight of the nine areas of communication while a medium effect was found in the area of willingness to accept leadership responsibility.

Table 3. Participants' indication of the change in level of confidence in leadership as a result of participation in LIA

Area	Confidence	*n*	*M*	*SD*	*t*	*d*
Ability to promote ID ag. within your community	Before LIA After LIA	241 240	2.97 4.14	0.87 0.68	-19.44*	1.50
Ability to work with diff. personality types	Before LIA After LIA	240 239	3.27 4.10	0.82 0.60	-15.17*	1.16
Ability to work in group setting	Before LIA After LIA	240 239	3.26 4.15	0.86 0.56	-15.90*	1.22
Degree of leadership experience	Before LIA After LIA	228 228	3.23 4.15	0.88 0.56	-16.96*	1.22
Skills in problem solving and decision-making	Before LIA After LIA	225 225	3.43 4.00	0.80 0.56	-12.91*	0.82
Motivation to develop Personally	Before LIA After LIA	226 226	3.36 4.32	0.86 0.66	-16.87*	1.24
Willingness to accept leadership responsibility	Before LIA After LIA	226 226	3.43 4.43	0.95 2.03	-6.98*	0.63
Knowledge of leadership strengths and weaknesses	Before LIA After LIA	227 227	3.07 4.11	0.82 0.64	-18.91*	1.41
Willingness to participate in volunteer service	Before LIA After LIA	225 225	3.26 3.94	0.93 0.72	-12.02*	0.82

*p < .01.

Table 4 shows the participants' change in level of confidence for the program area of communication. Significant differences (*p*<.05) were found in all ten areas of communication. In each area, participants reported having more confidence after completing LIA than they did before. The largest change in confidence related to

communication occurred in the area of introducing a guest speaker (*M*=2.56, *SD*=0.97 and *M*=4.19, *SD*=0.67, respectively). The least amount of change in confidence related to communication before LIA and after LIA occurred in the area of giving an extemporaneous speech to a large group (*M*=2.69, *SD*=1.14 and *M*=4.04, *SD*=2.11, respectively). Large effect sizes (Cohen, 1977) were found in all ten areas of communication.

Table 4. Participants' indication of the change in level of confidence in communication as a result of participation in LIA

Communication Area	Confidence	*n*	*M*	*SD*	*t*	*d*
Interviewing skills when comm. with the media	Before LIA After LIA	225 226	2.41 3.85	1.01 0.76	-23.80*	1.61
Writing skills addressing the media/public officials	Before LIA After LIA	224 224	2.96 3.92	1.04 0.74	-14.88*	1.07
Introducing a guest speaker	Before LIA After LIA	226 226	2.56 4.19	0.97 0.67	-23.15*	1.95
Giving a prepared speech to a large group	Before LIA After LIA	225 225	2.99 4.11	1.10 0.68	-16.66*	1.22
Giving an extemp. speech to a large group	Before LIA After LIA	224 224	2.69 4.04	1.14 2.11	-9.44*	0.80
Speaking to small groups (2-10 people)	Before LIA After LIA	224 224	3.33 4.24	0.96 0.63	-14.55*	1.12
Proper greetings and introductions	Before LIA After LIA	227 227	2.87 4.21	0.91 0.68	-21.19*	1.68
Listening to others' interests and opinions	Before LIA After LIA	227 227	3.21 4.08	0.83 0.71	-15.27*	1.13
Ability to respect different opinions	Before LIA After LIA	227 227	3.31 4.09	0.89 0.74	-12.92*	0.95
Speaking out in a public setting	Before LIA After LIA	224 224	2.96 3.94	1.02 0.77	-16.10*	1.08

*$p < .01$.

Participants' change in level of confidence in the program area of professional development is presented in Table 5. Significant differences ($p<.05$) were found between the before LIA confidence means and after LIA confidence means in each of the five areas of professional development. Within the five areas,

participants reported having more confidence after LIA than they did before LIA. The largest change in confidence related to professional development before LIA and after LIA occurred in dressing appropriately for different occasions (*M*=3.26, *SD*=0.96 and *M*=4.36, *SD*=0.66, respectively). The least amount of change in confidence related to professional development occurred in the participants' desire for further education (*M*=3.28, *SD*=1.01 and *M*=3.84, *SD*=0.91, respectively). Large effect sizes (Cohen, 1977) were found in the areas of professional development in dressing appropriately for different occasions, proper etiquette at a meal setting, and the ability to conduct oneself in a formal setting while medium effects were found in the areas of desire to join professional organizations and desire for further education.

Table 5. Participants' indication of the change in level of confidence in professional development as a result of participation in LIA

Area	Confidence	*n*	*M*	*SD*	*t*	*d*
Desire to join professional org.	Before LIA	225	3.05	1.00	-10.75*	0.69
	After LIA	225	3.69	0.85		
Desire for further education	Before LIA	225	3.28	1.01	-10.56*	0.58
	After LIA	225	3.84	0.91		
Dressing appropriately for different occasions	Before LIA	226	3.26	0.96	-17.49*	1.35
	After LIA	226	4.36	0.66		
Proper etiquette at a meal setting	Before LIA	228	3.21	0.95	-17.16*	1.27
	After LIA	228	4.23	0.63		
Ability to conduct oneself in formal settings	Before LIA	227	3.36	0.85	-15.30*	1.08
	After LIA	227	4.19	0.67		

*$p < .01$.

Significant differences ($p<.05$) in level of confidene were found in each of the four areas of the legislative process (see Table 6). Participants reported having more confidence in each area after completing LIA than they did before. The largest change in confidence related to the legislative process before LIA and after LIA occurred in the area of the participants' understanding of the role of a lobbyist (*M*=2.73, *SD*=1.11 and *M*=4.14, *SD*=0.71, respectively). The least amount of change in confidence related to the legislative process before LIA and after LIA occurred in the participants' ability in speaking to legislators in a public setting (*M*=2.74, *SD*=2.89 and *M*=3.92, *SD*=0.83, respectively). Large effects (Cohen, 1977) were found in the legislative process areas of understanding the role of a lobbyist, understanding the legislative process, and willingness to get

involved in the legislative process while a medium effect was found in the area of speaking to legislators in a public setting.

Table 6. Participants' indication of the change in level of confidence in the legislative process as a result of participation in LIA

Area	Confidence	*n*	*M*	*SD*	*t*	*d*
Understanding of the legislative process	Before LIA	227	2.77	1.09	-20.05*	1.42
	After LIA	227	4.07	0.70		
Understanding of the role of a lobbyist	Before LIA	227	2.73	1.11	-19.64*	1.51
	After LIA	227	4.14	0.71		
Speaking to legislators in a public setting	Before LIA	228	2.74	2.89	-6.36*	0.55
	After LIA	228	3.92	0.83		
Willingness to get involved in leg. process	Before LIA	227	2.57	1.13	-16.81*	1.09
	After LIA	227	3.72	0.97		

*$*p < .01$.

Conclusions, Implications, and Recommendations

Overall participants reported a significant increase in confidence in all six major areas of LIA as a result of their participation. This was evidenced in the difference of the participants' mean scores from before LIA and after LIA responses. Increased agricultural awareness has been shown to be a result of agricultural leadership programs(Kelsey & Wall, 2003; Whent & Leising, 1992). Findings of this study are consistent with these previous studies. Participants rated their level of confidence in agricultural awareness between average and above average before LIA and between above average and high after LIA.

Whent & Leising (1992) reported participants of the California Agricultural Leadership Program benefited from networking with classmates, agricultural leaders, and government officials. Similar results were found in this study. In the areas of building a network of people you may contact for help or information and the ability to network with people in the political setting, participants rated their level of confidence between moderate and average before LIA and between above average and high after LIA. While there were statistically significant differences in the means in the areas of the ability to network with individuals in volunteer service and their community, the actual difference may be of little practical significance as participants rated their level of confidence before and after participation in LIA between average and above average.

In seven of the nine areas of leadership (working with different types of personalities, working in a group setting, leadership experience, problem-solving and decision-making skills, motivation to develop personally, willingness to accept leadership responsibility, and leadership strengths and weaknesses) participants rated their level of confidence between average and above average before LIA and between above average and high after participation in LIA. These findings are consistent with the findings of the study conducted by Whent and Leising (1992). In the area of the ability to promote Idaho agriculture within their community, participants rated their level of confidence between moderate and average before LIA and between above average and high after participation in LIA. This increase in confidence may be attributed to the knowledge gained in LIA about Idaho agriculture and the resource of individuals available. In the area of willingness to participate in volunteer service, participants rated their level of confidence between average and above average both before and after participation in LIA. While statistical significance was found in this area, participants did not show a practically significant change in their confidence to participate in volunteer service. In the study conducted by Kelsey and Wall (2003), some participants felt participation in the leadership program negatively affected their ability to lead at the community level because they surpassed local leaders in their leadership skills. Other participants thought the programs prepared individuals to lead at the state level and not at a community level. In contrast, other studies reported increases in their participants' leadership involvement at different levels (Pigg, 2001; Whent & Leising, 1992; Williams, 1981). In other words, LIA participants may be no more willing to participate in volunteer service since completing LIA than they were before. The area of willingness to accept leadership responsibility showed significant difference between the mean scores for before LIA to after LIA (*M*=3.43 and *M*=4.43, respectively). However, it must be noted that a relatively large standard deviation was found in the after LIA scores as compared to the before LIA scores (*SD*=2.03 and *SD*=0.95, respectively). Such a finding indicates a large gap in perception across all of the participants related to whether or not they wanted the responsibility of using what they learned in LIA in a leadership position within their own home or community. This finding may have resulted from differences in the interpretation of the question or past experiences in running for a leadership position that was not received by the participant. Overall, findings in the area of leadership support the program objective concept of improving participants' personal leadership skills, but may not show an increase in willingness to accept leadership responsibility. In three of the ten areas of communication, introducing a guest speaker, giving a prepared public speech, and giving an extemporaneous speech, participants rated their level of confidence between moderate and average before LIA and between

above average and high after participation in LIA. The significant increases in confidence levels in these three areas may be attributed to the number of opportunities a participant had to practice introducing a guest speaker and giving speeches. In fact, the area of introducing a guest speaker had the largest increase in confidence (d=1.95). Similar to the findings of this study, Williams (1981) concluded that participants' perception of their public speaking skills increased after participation in a leadership program. In three of the ten areas of communication, speaking to a small group, listening to others opinions, and respecting different opinions, participants rated their level of confidence between average and above average before LIA and between above average and high after participation in LIA. This increase in confidence may be attributed to the dynamics of the class make-up and exposure to differing opinions and backgrounds of classmates. In another three of the ten areas of communication, skills when communicating with the media, skills when writing the media or public officials, and speaking out in a public setting, participants rated their level of confidence between moderate and average before LIA and between average and above average after participation in LIA. With the least amount of change in confidence found in these three areas, perhaps the opportunity to participate in these activities were not addressed as thoroughly. This notion is supported by Whent and Leising (1992), who reported that participants felt the need for more communication exercises both verbal and written.

Three of the five areas in professional development showed ratings of average to above average before LIA and above average to high after LIA. These areas included dressing appropriately for different occasions, proper etiquette, and conducting oneself in a formal setting. These findings may be attributed to the fact that participants had to dress in business attire, practice proper etiquette, and meet with government and industry personnel in various settings. In fact, the area of dressing appropriately for the occasion had the largest increase in confidence (d=1.35). The significant increases in confidence in the areas mentioned above may be attributed to the lack of frequent exposure and use. In the areas of desire to join professional organizations and desire for further education, participants rated their confidence level between average and above average both before and after LIA. These findings may be attributed to knowledge they had before LIA about education and professional organizations and what they did not know about dressing appropriately, etiquette, and conducting oneself in a formal setting. As discussed previously, 92.1% (n=198) of the participants had an education above the high school level and may explain the lower increases in confidence in these areas.

In two of the four areas of the legislative process, understanding the legislative process and understanding the role of a lobbyist, participants rated their level of confidence between moderate and average before LIA and between above average and high after participation in LIA. Findings may be attributed to the contact of participants with elected representatives, lobbyists, and other state elected officials in the session at the Idaho State Capitol. In fact, the area of understanding the role of a lobbyist had the largest increase in confidence (d=1.51). In the other two of the four areas of the legislative process, speaking to legislators in a public setting and willingness to get involved in the legislative process, participants rated their level of confidence between moderate and average before LIA and between average and above average after participation in LIA. The lower increases in confidence in these areas may be attributed to participants not being willing to become directly involved in the legislative process. Bolton's (1991) study found the participants were more confident and willing to talk to elected officials, but were not actively involved in the legislative process. It should also be noted that the participants' before LIA confidence level standard deviation was 2.89 in the legislative process area of speaking to legislators in a public setting. The standard deviation (SD=0.83) was much lower in this area after LIA. This large change in standard deviations in the before and after LIA scores indicates more uniformity of the participants' perceptions of their level of confidence in speaking to legislators in a public setting after participation in LIA.

All six of the major LIA program areas (agricultural awareness, networking, leadership, communication, professional development, and the legislative process) created a heightened level of confidence in LIA participants. While such increases in confidence do not directly reflect behavioral changes, they are perhaps indicative of increases in awareness of related issues. Assessing behavioral changes in LIA graduates as a result of their participation was outside the scope of the current study. Despite not being able to show behavioral changes from participants, it is nevertheless encouraging to document positive participant perceptions related to increased confidence. If nothing else, LIA is equipping graduates with the self-efficacy and belief in their own ability to be able to make positive differences in the agricultural communities in Idaho. Follow-up research designed to assess behavioral changes as a result of LIA is recommended.
In developing the survey instrument, the researchers identified the six main program areas of LIA in order to provide the conceptual framework for the study. It is recommended that the LIA Foundation Board of Directors review these six main program areas to determine if they coincide with overall intent of LIA, and especially the program mission and objectives.

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Biography

Lori Moore is an assistant professor in the Department of Agricultural and Extension Education at the University of Idaho. She received her Ph.D. from the University of Florida in 2003 where she specialized in agricultural leadership and teacher education. She earned her M.S. degree in Animal Science and B.S. degree in Agricultural Science from Texas A&M University. Her professional experience began as a high school agricultural science teacher in Texas, where she taught for four years. Throughout her career as an educator, she has taught a variety of leadership courses.

Justin Patten is an agricultural science and technology educator at Snake River High School in Blackfoot, Idaho. He received his M.S. degree in Agricultural Education from the University of Idaho in 2005. He earned his B.S. degree in Agricultural Education from Utah State University in 2000. He has taught at Snake River High School for the past seven years where he has taught a variety of agricultural science and technology courses.