

Need for Formal Leadership Training for Students in a Land-Grant College of Agriculture

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According to Love and Yoder (1989), much evidence is available to support the conclusion that colleges of agriculture (COA) in the United States have contributed significantly to the achievements of their graduates. These researchers noted that although student leadership skill development while in college was good, students felt that COA's contributed little to their leadership skill development.

As noted by Love and Yoder, students perceived the development of their leadership abilities as an important part of their college education. Few departments, however, have required leadership development coursework as a part of their agriculture curricula. According to Morrill and Roush (1991), higher education has only recently given attention to the characteristics of effective leaders. Researchers have determined that the development of leadership skills was important to the success of high school vocational agriculture graduates. According to Shelhamer (1990), adults who were active in leadership activities were more likely to have completed their high school vocational agriculture curricula.

College students and graduates of the information age have recognized the importance of leadership development (Love & Yoder, 1989). Representatives from agri-business have voiced their support of leadership skill development for prospective employees (Aldrich, 1988). Love and Yoder's (1989) research suggested that COA's were not providing enough leadership development opportunities. A need existed to determine the perceived leadership abilities of students enrolled in COA's because knowledge of perceived leadership abilities would be useful as faculty in COA's encourage students to participate in activities that foster leadership skills development. Further, the knowledge of the students' perceived leadership abilities would be helpful as faculty plan and implement future leadership skill development programs for students enrolled in COA's.

Purpose and Objectives

The overall purpose of this investigation was to assess the need for formal leadership training for students enrolled in a college of agriculture at a land grant university. Specific objectives included the following:

Determining constructs within the perceived leadership abilities of students enrolled in a COA.

Determining any differences among the perceptions expressed by students enrolled in a COA and their associated demographic characteristics.

Determining the perceived need for leadership development activities for students enrolled in a COA.

Procedures

The population for this investigation included all students enrolled in the COA, spring quarter, 1990 (N=590). According to Krejcie and Morgan (1970), a sample of 232 was needed to make inferences to the population. A total of 390 respondents were sampled to ensure that data would be collected from 232 members of the population.

Survey instruments designed and field tested by Luft (1988) and Lester (1989) were used for the investigation. Luft and Lester used a six-point Likert-type scale to survey young rural adults (in communities with a population of fewer than 2500 people, ages 18-40) (Luft, 1998), and young urban adults (in communities with a population greater than 2500 people, ages 18-40) (Lester, 1989). The same 70 statements and the six-point Likert-type scale (1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=slightly agree, 5=moderately agree, 6=strongly agree) that were used by Luft and Lester were used to collect data for this investigation. Questions from Luft's and Lester's questionnaires that focused on demographic characteristics were revised to better address the population studied. Luft reported a Cronbach's coefficient alpha of .905 for appropriate sections of the instrument.

Two mailings and one postcard reminder were employed to secure leadership information from the respondents. Cronbach's alpha for this investigation was .905. The response rate after removing the respondents from the sample who were not able to respond was 74 percent (283/383). T-tests conducted at the .05 level failed to identify significant differences between early and late respondents.

Data were summarized using means, frequencies, and standard deviations. Factor analysis was used to determine the leadership constructs that were present within the population. T-tests and analysis of variance statistical procedures were used to determine whether differences existed between and among the factor means. Student-Newman-Keul's post hoc multiple comparison tests were used to isolate significant differences.

Results and/or Conclusions

The respondents were predominately male (73%) and 19 to 23 years of age (73%). The average student enrolled in the COA was **22.4 years old**, grew up on a farm (74%), was presently living in town (58%) rather than on campus (36%), had never been married (86%), did not have any children (86%) and was gainfully employed (74%) while attending college. Approximately 10 percent held a Bachelor of Science degree.

The 70 statements were factor analyzed to determine the underlying constructs of the investigation. According to Borg and Gall (1989), a Scree test can be used during factor analysis to determine the number of constructs that best describe the underlying dimensions of the population. An examination of the Scree test resulted in the identification of four constructs named by the researchers as follows: 1) earned leadership, 2) leadership style-humanistic, 3) leadership tenacity, and 4) leadership self-confidence. The specific statements with their respective factor loadings are located in Table 1.

Table 1. Factor analysis results of the leadership statements

Statement	Loading	M e a n	S D
Factor One (Earned Leadership Skills)			
People often seat me at the head of a table in a group discussion	.728	3.28	1.16
My ability to convey ideas and convince others of ideals in the social arena is good	.688	4.43	0.91
I enjoy expressing my ideas on a given issue	.669	4.66	1.04
I feel confident openly Promoting issues I feel strong about	.658	4.66	1.10
Other people accept me as a leader	.658	4.64	0.84
I am willing to take charge and lead a group	.658	4.41	1.13
I can motivate people	.601	4.68	0.72
I am the type of person who is involved with professional and community affairs	.566	3.93	1.27
Makiig friends and getting along with others is easy for me	.553	4.94	1.03
People seek guidance from me when they have difficult times	.546	4.51	0.90
Belonging to organizations is important to me	.525	4.33	1.34
I encourage others to become involved in various projects	.525	4.42	1.02
I enjoy mingling with large groups	.510	4.22	1.29
When working in a group I spend more time talking than anyone else	.491	2.78	1.31
I do not consider myself to be a follower	.477	4.15	1.25
I enjoy meeting new people	.463	5.09	0.92
People look to me for advice	.463	4.77	0.78
I am not hesitant to discuss a difficult situation	.461	3.86	1.28
Other people accept my ideas	.425	4.60	0.68
I do not have trouble speaking in front of large groups	.422	3.83	1.56
I am often acknowledged	.399	4.54	1.22
I do like to be the one to initiate projects	.338	4.08	1.21
I felt extra-curricular activities in high school were a very important part of my life	.326	4.86	1.58
I am able to inspire people	.319	4.70	1.09
I am a person who is original in my ideas and activities	.303	4.48	0.88
Factor Two (Leadership Tenacity)			
I consider myself to be an achiever in life	.691	5.06	0.74
I am enthused about my work	.683	5.04	0.88
Once I begin a project, I feel I must see it through to completion	.619	5.09	0.92
I enjoy success and strive for it	.587	5.36	0.71
I persevere on a project until it is completed	.586	5.07	0.89
I can work persistently for just cause, without giving up or backing off	.579	4.99	0.77
Each year brings me closer to my professional goal	.556	5.06	0.90
I consider myself to be a valuable contributor to the human race	.498	4.95	0.87
Other people can depend on me to accomplish a task for them	.480	5.35	0.76
I view myself as a professional	.470	4.61	1.14
I feel I am proficient in my work	.457	5.22	0.71
<u>People confide in me because I am trustworthy</u>	.446	5.28	0.66

Table 1 continued.

Statement	Loading	Mean	SD
I am an effective decision maker	.421	4.56	0.88
I feel people respect and admire me for the person I am	.418	4.90	0.86
I consider myself to be intelligent	.357	5.08	0.79
I like to see conflicts resolved	.332	5.25	0.74
I believe that my ideas are practical in nature	.318	5.06	0.74
Factor Three (Leadership Style--Humanistic)			
I understand that other people have feelings, motives and goals of their own	.646	5.43	0.69
I willingly listen to others	.643	5.23	0.77
I consider myself to be a flexible person	.579	5.14	0.87
I do not find it difficult to consider another person's point of view	.574	4.79	1.10
I enjoy sharing information with others	.542	5.20	0.82
I can see both sides of an argument in question	.505	4.87	0.92
I'm concerned about maintaining good interpersonal communications	.525	5.23	0.76
It is easy for me to develop an interest in people	.503	4.80	1.10
When someone comes to me with a problem, I try to put myself in his/her shoes	.483	4.94	0.83
I like to maintain good interpersonal relations with co-workers	.473	5.37	0.76
I am a cordial person	.438	4.93	0.74
I can tolerate frustrations and delays	.425	3.37	1.29
I use tact in everyday life	.414	4.69	0.88
Being tolerant of uncertainty is an essential part of my life	.348	3.65	1.29
I have a good sense of humor	.347	5.18	0.81
I am not a moody person	.320	4.16	1.31
I am tolerant of individuals who deviate from society norms	.256	3.88	1.34
Factor Four (Leadership Self-confidence)			
My emotions seldom get in the way of making rational decisions	.531	4.15	1.27
Making mistakes tends to stimulate worry about making another mistake	.517	3.24	1.31
I am able to persuade others to respect my point of view	.406	4.53	1.01
I feel confident with my capabilities	.405	4.48	1.40
I am self-conscious about what I do	.380	2.33	1.17
I am consistent in my work habits	.331	4.64	1.34
I often take a chance on a new idea	.306	4.52	1.09
I usually hold back from taking part in a discussion for a short time before I interact	.299	2.61	1.12
I am a dependent person	.243	3.65	1.75
I am unafraid to search for answers to questions if I don't already know them	.205	4.07	1.65

T-tests that were conducted to determine whether any differences existed between group means failed to isolate many significant differences. A significant difference was observed when the respondents were grouped by gender and the factor "leadership style-

humanistic” (.035 probability). Females tended to agree more strongly with “humanistic” leadership abilities than did males. No statistical differences were observed after t-tests were conducted when the respondents were grouped by whether or not they had children and were attending college, when they were grouped by whether or not they were working on a second Bachelor of Science degree, and when they were grouped by whether or not they were married.

Analysis of variance tests were conducted to determine whether any differences existed among group means. According to data reported in Table 2, respondents who lived in town tended to agree more strongly with the leadership constructs than respondents who lived on campus. Specifically, they were in more agreement with the leadership tenacity (.018 probability) construct than were the respondents who lived on campus.

Table 2. Analysis of variance tests among respondents by where the respondent lived while attending college group and factor

Factor	<u>Respondent residence</u>			Total	F-value	F-prob.
	Out of town	Lived in town	Lived on campus			
	N=17	N=159	<u>N=99</u>			
Earned leadership skills	4.24	4.41	4.24	4.34	2.48	.086
SD	.53	.60	.63	.61		
leadership tenacity	4.91	5.12	4.97	5.06	4.09	.018
	.47	.41	.48	.45		2.03
Leadership style-Humanistic	4.69	4.81	4.68	4.76	2.74	.066
	.52	.48	.44	.47		
Leadership self-confidence	3.63	3.87	3.76	3.82	2.06	.129
	.63	.61	.53	.59		

Statistically significant differences were also observed when the respondents were grouped by their present occupation (Table 3). Respondents who worked on a farm did not agree as strongly with the leadership tenacity construct than did respondents who worked in an agribusiness or were working on campus (.006 probability). Respondents who worked on campus agreed more strongly with the Humanistic leadership construct than did those who worked on a farm or a business (.0025 probability). No significant differences were noted when the respondents were grouped by where they were raised as a child or when they were grouped by age.

Respondents were asked to indicate whether they felt that leadership training was needed at the college level. Two hundred and forty-five respondents of the 283 (87%) believed leadership training was needed. When asked if they would be willing to participate in formal leadership training at the college level, 230 of 283 (81%) indicated their willingness to participate.

Discussion

The four constructs that were identified and named by the researchers had qualities or characteristics similar to those found in the literature. The constructs named were 1) earned leadership, 2) leadership style-Humanistic, 3) leadership tenacity, and 4) leadership

Table 3. Analysis of variance tests among respondents by present occupation of respondent group means and factor

		Present occupation group						Total	F-	F	Sign. diff.
		Farm	Business	Ag Business	Service related	NDSU	Did not work				
		(1)	(2)	(3)	(4)	(5)	(6)				
		N=78	N=33	N=42	N=25	N=29	N=32	N=235			
Earned leadership skills	M SD	4.25 .58	4.33 .65	4.42 .74	4.27 .59	4.50 .48	4.21 .62	4.32 .62	1.14	.341	
Leadership tenacity		4.94 .45	4.87 .52	5.17 .36	4.91 .48	5.26 .40	5.14 .43	5.04 .45	4.56	.000	3<>1 5<>2,4,1 6<>1
Leadership style-Humanistic		4.61 .51	4.62 .46	4.81 .40	4.83 .39	4.98 .44	4.81 .41	4.74 .47	3.80	.003	5<>2,1
Leadership self-confidence		3.79 .55	3.96 .52	3.79 .58	3.86 .57	3.76 .54	3.83 .76	3.82 .59	.51	.765	

self-confidence related leadership abilities. According to Bennis (1991), effective leadership can be felt throughout an organization and is most evident in four themes: People feel significant--what they do has **meaning** (LEADERSHIP SELF-CONFIDENCE construct); Learning and competence matter--there is no failure, only feedback to tell us what to do next; People are part of a community--brotherhood, and family (LEADERSHIP STYLE-HUMANISTIC construct); and Work is exciting--pulling rather than pushing toward a goal (LEADERSHIP TENACITY construct). The themes suggested by Bennis are present in some of the constructs that were identified through this investigation.

It was interesting to note that male respondents perceived themselves as being somewhat more dictatorial in their leadership abilities. According to Desjardins and Brown (1991) this was to be expected. Desjardins and Brown found in their recent leadership style research that women tended to score higher than men in the humanistic mode.

Respondents indicated that their work experiences fostered their leadership skill development. This finding was to be expected when one considers the fact that over 70 percent of the students in this investigation found it necessary to work part time to defray their college expenses. This indirectly affected the respondents' ability to become involved in campus organizations and also indirectly reduced their ability to become involved in other college leadership development opportunities.

A large number of respondents indicated that leadership development programs at the college level were needed. Their positive response suggested that college students recognized the important role that leadership skill development can play in their professional accomplishments.

Conclusions

The following conclusions resulted from an analysis of the findings of this investigation:

The perceived leadership abilities of students enrolled in a COA are similar regardless of student ages, marital status, levels of education, and where they were raised as children. Very few significant differences were noted when the data were analyzed by the demographic characteristics.

Students who work in an agri-business agree more strongly with the leadership constructs than students who work on a farm.

Students who work on-campus agree more strongly with the leadership constructs than students who work in other occupations while attending college.

Students enrolled in the COA believe that leadership training is needed at the college level.

Students enrolled in the COA are willing to participate in formal leadership training.

Recommendations

The following recommendations resulted from an analysis of the findings and conclusions drawn from this investigation.

Faculty advisors should overtly encourage their advisees to participate in activities that foster leadership skill development. A large number of respondents indicated both a need for and a willingness to participate in leadership development programs. The review of literature also supported this premise.

If students must work part time while attending college, they should be encouraged to secure jobs that foster their leadership skill development. Students who worked on-campus or in an agri-business were in stronger agreement with the leadership constructs. Several of the respondents reported in an open-ended question that work experience was extremely valuable to their leadership skill development.

Students who have traditionally *worked* on a farm should be encouraged to secure jobs that foster their leadership skill development while attending college. Students working part time on-campus or in an agri-business were in stronger agreement with the leadership constructs identified through the investigation.

Departments in COA should consider the development and adoption of required leadership development programs for their students. Students indicated both a strong need and a willingness to participate in leadership development programs. Our review of literature also supported the adoption of required leadership development programs for COA students.

Research should be designed to identify how the Agricultural Education profession can best facilitate the leadership skill development of students enrolled in a COA.

Implications

Colleges of Agriculture should continue to encourage their students to further develop their leadership abilities. Industry representatives expect **COA** graduates to be capable and efficient leaders for their businesses and the entire agrio-business industry. College students recognized this fact and indicated their willingness to strengthen their leadership skills.

Departments within COAs that fail to encourage working college students to find part-time employment that fosters leadership skill development may be placing their students at a distinct hiring disadvantage. Students forced to work while attending college may find it difficult to participate in campus leadership development opportunities. Their work experiences may become primary rather than secondary methods of developing their leadership skills. Internships and the development of industry-education partnerships may become very important as COA student advisors and teachers encourage students to develop the leadership skills they will need upon graduation.

Agricultural education departments should lead their colleagues in undergraduate/graduate student leadership skill development. These departments should offer-promote the development of college wide courses that foster the development of leadership skills. Agricultural education professionals should teach these courses as they are often much better trained than their fellow colleagues to instill leadership abilities in COA graduates.

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