Employer Assessment Of The Skill Preparation Of Students From The College Of Agricultural Sciences And Natural Resources University Of Nebraska-Lincoln:Implications For Teaching And Curriculum

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Introduction

Today's graduates from colleges of Agriculture and Natural Resources, much like people involved in production agriculture, are waiting to hit a "hot market". Just like farmers and ranchers who get ready to market their commodity for a profit, college graduates with diplomas in hand, head to where they can cash in on profitable careers.

But for many graduates, the opportunity to find a "hot market" and cash in on profitable careers has not yet opened up. These available markets are not accessible, because college graduates are unprepared to fulfill the needs of the employers. Many graduates did not acquire the knowledge, competencies, skills and abilities to accommodate employers' needs while in college.

According to Klein (1990), educating students for a career in agricultural and natural Resources demands greater technical skills, plus a more holistic perspective on its interaction with society. Two profound changes have dramatically altered the landscape confronting today's agricultural graduates. First, very few of today's graduates will work directly with the farm production sector; instead they will increasingly work more closely with the final consumer. Second, the food and agricultural sector, at all levels, will operate in the context of an integrated world market system.

According to Broder and Houston (1986), colleges of agriculture have long been committed to quality education. The quality of an undergraduate degree program cannot be separated from the successes and failures of its graduates in the marketplace. The task of producing marketable graduates requires an on-going sensitivity to the changing needs and perceptions of prospective employers.

Purpose and Objectives

In 1986, agriculture related career opportunities were approximately four times more prevalent than the number of trained graduates of land grant universities (Wheelock and Zekeri, 1988). Today, however, these jobs require competencies that are not routinely part of the curriculum (Thompson and Smith, 1992). The more that is known about competencies needed in these careers and taken into account in curriculum development, the more employable graduates will be in the marketplace. The specific objectives of this study were to:

1. Identify and rank the competencies that employers expect they will need from the College of Agricultural Sciences and Natural Resources (CASNR) graduates now and five years from now.

2. Determine if graduates from the College of Agricultural Sciences and Natural Resources (CASNR) at the University of Nebraska exhibit the level of competency employers desire.

Methods

The population for this study consisted of employers of CASNR alumni. To determine the employer sample, personnel at the University of Nebraska Alumni Association were contacted to obtain an alumni mailing list. A mailed questionnaire was sent to 769 CASNR alumni who graduated from December of 1990 through August 1994. All graduates were asked to give the name of their first employer/ supervisor, the employer's address, the title of their position, and permission to use the employee's name in the survey. Four hundred sixty-four alumni completed and returned the questionnaire (60.3% return rate). The employers for the sample population were sorted by business discipline according to the alumnus' academic major.

The instrument for this study used a similar format as that of Litzenberg and Schneider's (1988), Texas A&M Agri-Mass study. The survey requested that employers quantify, on a five-point Likert scale, the individual's ability to perform each aptitude/skill when he or she entered the job, the importance currently, and the importance in five years. The mean scores were calculated and responses to

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importance currently and the importance in five years were ranked.

Results

Employers felt communication skills will be more important in five years than today (Table 1). Two of the most important areas of communication were the "ability to listen and carry out instructions" and the "ability to speak clearly and concisely on technical information". This supports Klein's (1990) study, where employers felt specialized educational backgrounds were not as important as communication skills. Course work and extracurricular activity can help improve students communication skills especially in classrooms where active learning techniques are used.

Employers felt that their employees would need to increase their leadership abilities, especially in the areas of problem solving and team work (Table 2). Klein, 1990 also found that employers needed employees who could work well on teams and contribute to group discussions. One strategy that could help is that instructors could develop teams and have the teams work together to solve a problem related to the technical information being taught in the course. In this way students could learn team work while learning technical information first hand.

Overall Table 3 demonstrates the most diverse rankings, it illustrated employers' perceptions toward the category of importance of **computer, quantitative, and management of information skills.** Employers felt that the ability to use general business computer software and the ability to use computers in managerial decision making to be important skills now and five years from now. This stresses the importance of integrating computers into all classes and disciplines. Instructor need to find new and inventive ways of using computers in their classrooms. The use of the Internet for more information retrieval and e-mail communication between students and instructors are two examples.

The importance of **personal qualities** had the highest mean ranking, among all categories of competencies (Table 4). Self-motivation and positive work attitude were top-ranked skills, these findings were consistent with the earlier work done by Litzenberg and Schneider (1983) and the findings of the Texas A&M Agri-Mass study conducted by Litzenberg and Schneider (1988). This finding supports the need for classes in interpersonal skill development. Students needs to become more aware of their personal strengths/ weaknesses, and be afforded the opportunity to practice inter-personal skill in settings other than the classroom, such as may be found in practicums in the community. The University of Nebraska now offers 12 sections per semester in inter-personal skills courses in an effort to address this problem.

Conclusions

Typically we faculty consider own subject domains to be the most important subject our students learn. What this study helps faculty understand is that employers do not discount the importance of technical subject matter, they do indicate that skills in communication, leadership, interpersonal competence, and computers are needed to survive in today's agribusiness environment.

It appears that faculty at the University of Nebraska are doing an adequate job of preparing students for the aforementioned subject domains. However they must do a better job if students are to be competitive in today's and the future job market.

Even though this study was a follow-up of University of Nebraska College of Agriculture and Natural Resources graduates, the findings are consistent with those of the 1988 Litzenberg and Schneider Texas A&M study. Therefore, similar findings should be found on colleges of Agriculture and Natural Resources campuses across the country.

Most Universities are coming under the scrutiny of the assessment movement and studies like this position faculty to answer the questions: Did your students learn what was taught and can today's students compete in the job market?

Recommendations

The following recommendations are offered as suggestions to faculty in similar situations as the University of Nebraska.

1. Conduct follow-up studies of graduates that include a broader selection of content beyond specific subject fields.
2. It is recommended that course work and co-curricular activities, such as internships and service learning, emphasize the development of these skills. In addition to developing these qualities in the classroom, involvement of students in campus and community activities/organizations should be a high priority.
3. Colleges must be sensitive to the needs of the employers by conducting studies such as this, every three to five years.

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Table 1

Ranking of Importance for Communication skills by employers n =236

Questions	Enter Level Ability	Importance Now	Rank	Importance five Years from Now	Rank
Ability to listen and carry out instructions	3.78	4.30	1	4.55	1
Ability to read and understand specific technical information	3.45	4.02	2	4.47	3
Contributes to group discussions and decisions	3.30	3.98	3	4.44	4
Ability to give clear and concise instructions to others	3.20	3.98	3	4.43	5
Ability to express creative ideas verbally	3.30	3.96	4	4.39	6
Ability to access and apply electronic information systems	3.26	3.94	5	4.43	5
Ability to speak clearly and concisely on technical information	3.16	3.92	6	4.50	2
Professional telephone skills and etiquette	3.64	3.91	7	4.19	8
Ability to write technical reports, memos, and letters	3.06	3.79	8	4.30	7
Ability to express creative ideas in writing	3.11	3.71	9	4.09	9
Applies graphics communication skills	3.07	3.64	10	3.95	10
Ability to listen and summarize lengthy oral presentations	3.13	3.50	11	3.77	11

Note: Likert scale used: 1(low or little) to 5(high or exceptional)

Table 2

Ranking of Importance for Leadership skills by employers n =236

Questions	Enter Level Ability	Importance Now	Rank	Importance five Years from Now	Rank
Ability to work within a team to make decisions	3.45	4.16	1	4.51	2
Welcomes rather than resists change	3.44	4.13	2	4.48	4
Demonstrates problem-solving ability	3.40	4.12	3	4.55	1
Builds trust/confidence in others	3.42	4.11	4	4.50	3
Ability to work in the organizational culture	3.50	4.09	5	4.40	6
Ability to make decisions within assignment	3.27	4.03	6	4.05	3
Ability to work with persons of diverse backgrounds	3.42	4.01	7	4.37	7
Ability to deal with conflict	3.14	4.01	7	4.43	5
Ability to properly delegate responsibility and authority	2.95	3.77	8	4.34	8
Ability to adjust leadership style to situation	2.85	3.66	9	4.37	7
Ability to arrange work situations that motivate followers	2.85	3.66	9	4.29	10
Understands motivation needs of others	2.94	3.61	10	4.23	11
Ability to select and supervise others	2.69	3.58	11	4.31	9
Ability to use differing sources of power/influence	2.74	3.52	12	4.09	12
Ability to take risks	2.88	3.52	12	4.00	13

Note: Likert scale used: 1(low or little) to 5(high or exceptional)

Table 3

Ranking of Importance for Computer, Quantitative, and Management Information by employers n = 236

Questions	Enter Level Ability	Importance Now	Rank	Importance five Years from Now	Rank
Ability to use general business computer software	3.24	3.86	1	4.41	1
Ability to interpret and use math and statistical methods	2.95	3.62	2	4.06	3
Ability to use computers in managerial decision making	2.64	3.42	3	4.09	2
Ability to use computerized accounting systems	2.92	3.24	4	3.66	4
Ability to purchase and implement use of computer systems	2.69	3.04	5	3.46	6
Ability to use quantitative techniques	2.37	2.94	6	3.51	5
Ability to design computer programs	2.13	2.69	7	3.15	7
Ability to design and implement management information systems	2.01	2.60	8	3.07	8
Ability to understand Artificial Intelligence/Expert systems	2.10	2.60	8	3.07	8
Ability to write computer programs	1.72	2.10	9	2.34	9

Note: Likert scale used: 1(low or little) to 5(high or exceptional)

Table 4

Ranking of Importance for Personal Qualities by employers n =236

Questions	Enter Level Ability	Importance Now	Rank	Importance five Years from Now	Rank
Positive work attitude/personality/ability to work hard	4.10	4.50	1	4.67	3
Demonstrates high ethical values	4.30	4.48	2	4.59	4
Self-motivation	3.94	4.43	3	4.71	1
Ability to work without supervision	3.67	4.35	4	4.71	1
Demonstrates good listening habits	3.75	4.28	5	4.52	6
Manages time	3.40	4.23	6	4.68	2
Demonstrates positive outlook on life	3.88	4.21	7	4.43	7
Ability to work under varied conditions	3.65	4.20	8	4.43	7
Self-confidence	3.47	4.17	9	4.57	5
Sets high personal goals	3.57	4.07	10	4.39	9
Ability to take position and defend it, sell your ideas	3.29	4.05	11	4.40	8
Holds others in high regard	3.75	4.00	12	4.19	10
Handles stress/failure/rejections	3.18	3.99	13	4.39	9
Demonstrates sympathy/empathy for others	3.41	3.74	14	3.99	11

Note: Likert scale used: 1(low or little) to 5(high or exceptional)

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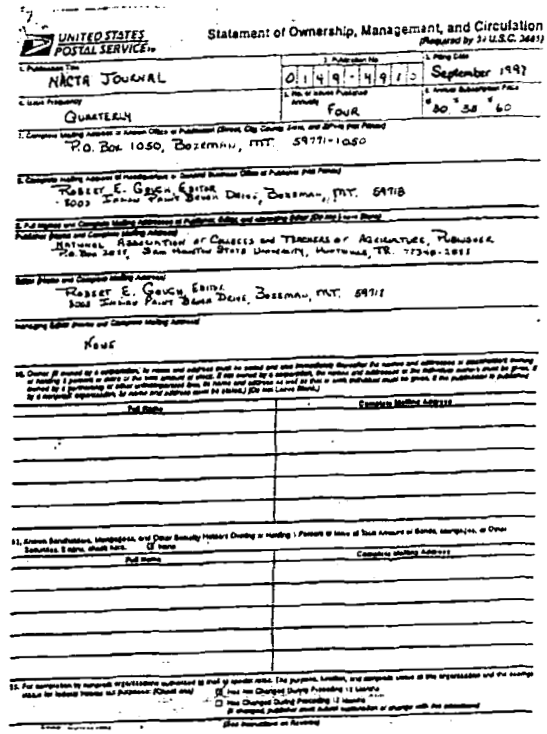

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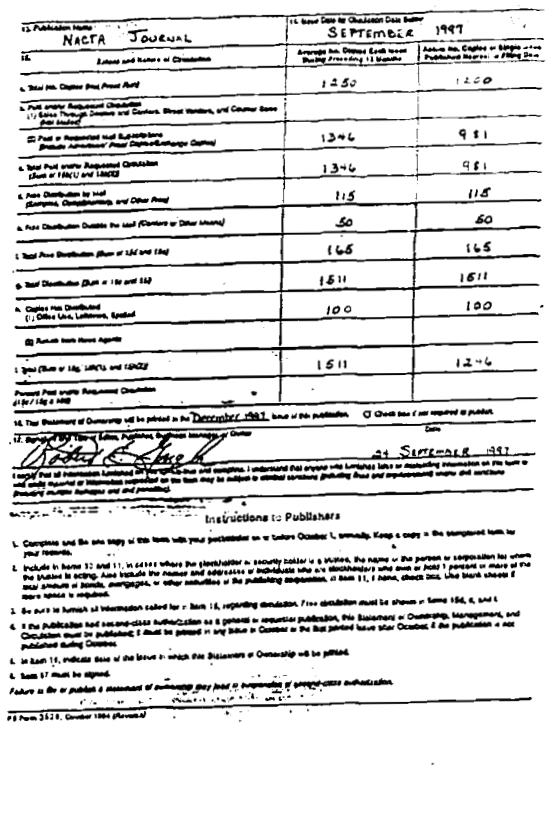

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