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## **Disciplines**

Agricultural Education | Curriculum and Social Inquiry | Higher Education

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# Undergraduate Student Mentoring: What do Students Think?



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## Abstract

The purpose of this census study was to explore undergraduate student perceptions of mentoring in a College of Agriculture and Life Science (CALs). An analysis of the responses from 532 respondents found that students believe that faculty in CALs often practice the mentoring functions except for the direct assistance, which students believe sometimes occurs. Undergraduate students take a broad view of mentoring. They view it as an engaging and interactive process where an exchange of ideas takes place and where the focus generally includes, but is not limited to, professional and career development. Students consider faculty members who are supportive, aware of student needs, and show concern for students as mentors. Mentoring functions can occur in a variety of fashions and often during academic advising, informally after class, during office hours, during research and laboratory times, and as part of their involvement in clubs and organizations. Students do perceive faculty as mentors and seem to find themselves drawn to faculty mentors who have similar interests and career goals, are engaged with students outside of the classroom, and are willing to assist students in their personal and professional development. These findings have implications on faculty mentor training and formally organized mentoring programs.

## Introduction

Mentoring is the process where a developmental relationship evolves between a more advanced or experienced person (a mentor) who provides career and/or personal support to another individual (a protégé) (Wolfe, 2006). The support can range from helping someone transition from childhood to adulthood or from student to professional.

The modern development of mentoring has occurred in waves and it was not until the 1970s and 1980s that the mentoring movement began to gain traction in education. The primary aim of student mentoring in higher education tends focus on three facets (Miller, 2002). They are academic, personal development, and career choice (Chao, 1997; Miller, 2002; Reinartz, 2000). A few of the primary goals of academic advising (Habley, 2000) are consistent with the aims of mentoring.

People come together in a mentoring relationship

for a wide variety of reasons; however, in addition to mutual consent, the combination of rapport and clarity of goals directly influences the relationship (Meggison and Cutterbuck, 2005). Relationships with high clarity and high rapport generally have an open dialogue, shared expectations, and openness to mutual benefit, while those relationships with low clarity and low rapport are generally only going through the motions. In the latter instance, little can be expected, according to Meggison and Cutterbuck.

Mentoring has been a prominent part of the business and industry culture much longer than in education (Fagenson-Eland, 1989; Scandura, 1992; Orpen, 1995). In higher education, mentoring is traditionally associated with faculty and graduate students (Merriam et al., 1987; Anderson et al., 1995). At the undergraduate level, mentoring can occur as part of the academic advising process (Reinartz, 2000) and informally where faculty and graduate students serve as mentors to undergraduates (Priest and McPhee, 2000). Undergraduate mentoring studies have focused on the protégés' perceptions about their mentor or mentoring relationship (Anderson et al., 1995; Van Ast and Field, 2005). Stanley and Lincoln (2005) suggest that undergraduate faculty and administrators are often uncertain about how to foster effective mentoring relationships.

## Theoretical Framework

Researchers like Levinson et al. (1978) and Kram (1980; 1983) have identified a wide range of functions a mentor should practice. Kram (1985) suggested that mentoring, when done correctly, has the potential to enhance the career development and psychosocial development of both individuals. According to Gold (1992), there is a need for personal and psychosocial development in mentoring. Emotional-physical needs include self-esteem, acceptance, and self-confidence. Personal-intellectual needs consist of intellectual stimulation, challenges, innovation, and creativity. Friendship, relationships, collegiality, and interaction are psycho-social needs that can be addressed during the mentoring process.

Kram (1985) went on to identify nine mentoring functions within the two broader categories of career and psycho-social development. Some researchers like Jacobi (1991) and Fowler and O'Gorman (2005)

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have criticized Kram's model for its irrelevance to education. In part, Jacobi argued that theoretical frameworks for mentoring that use Bandura's Social Learning Theory fail to address important aspects of mentoring such as professional or emotional support. In duplicating Kram's work, Fowler and O'Gorman discovered that Kram's model lacks a component they called learning, a function that focuses on meta-skills, self reflection, and collaborative learning. These discussions have lead to questions as to whether Kram's model is acceptable for mentoring in education.

Brzoska et al. (1987) used Kram's (1985) career and psycho-social functions to develop a model for educational settings (Figure 1). The model contained six mentor functions: 1) informal contact; 2) role modeling; 3) direct assistance; 4) demonstration; 5) observation and feedback; and 6) professional development planning assistance.

Informal contact consists of those interactions or discussions that take place outside of scheduled mentoring sessions and are generally in the form of "check-ins" on the protégé to offer advice, encouragement, and most of all, to listen (Brzoska et al., 1987). The role modeling function exhibits professionalism, demonstrates realistic ways of problem solving, and exhibits enthusiasm, self-confidence, security, and competence. Direct assistance from mentors aids protégés in setting and achieving goals, organizing and managing materials or equipment, suggests techniques, and advises protégés on record keeping and reflection as methods of making improvements. Mentors utilize demonstrations to show the protégé how to properly use strategies, techniques, or skills. Formal observation and feedback is a three-step process that includes a pre-conference, observation of an activity, and a post-observation conference. The final function, professional development planning, includes teaching specific job skills, but also serves as a source of information, opportunities, and networking required of the protégés as they explore potential careers or consider further education.

Mentoring is a complex process and function that requires time and communication and involves support, assistance, and guidance,

but not evaluation of the protégé (Huling-Austin, 1992). There is a difference between mentoring and evaluating students (Huling-Austin, 1992; Neal, 1992). The terminology used between these two activities is different and the resulting relationship is also influenced. The purpose of evaluation in mentoring should focus on accountability, improvement, understanding, and knowledge, and not the evaluation of the protégé by the mentor (Odell, 1992).

Often the focus of mentoring is on planned mentoring programs and research related to such programs. However, there is a range of natural mentoring relationships (Miller, 2002). Philip and Hendry (2000) identify one of these natural mentoring relationships as classic mentoring; a more experienced adult provides support, advice, and challenges to a student as part of a one-on-one relationship.

Higher education is a combination of formal and informal mentoring. Formal mentoring occurs as a result of an organization's commitment to programs that aid in individual professional development and follow a concrete framework (Chao et al., 1992). Informal mentoring lacks organizational commitment and structure and occurs spontaneously (Ragins and Cotton, 1999). Faculty rapport with students significantly contributes to the undergraduate experience (Lagowski and Vick, 1995). Reinartz (2000) suggested that faculty members who enjoy



**Figure 1. Mentor Functions Model (Brzoska et al., 1987)**

**Note:** From *The Mentor Teacher Handbook* (p. 8), by Thom Brzoska, Jan Jones, John Mahaffy, Kenneth Miller, and Joann Mychals, 1987, Portland, OR: Northwest Regional Educational Laboratory. Copyright 1999 by the Evergreen School District of Vancouver, Washington. Reprinted with permission.

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advising and mentoring often place a higher priority on the role and are more likely to give of their time and expertise. Mentors not only utilize personal and professional skills when mentoring, but also need appropriate training and incentives to maximize mentoring (Wolfe, 1992).

In 2006, Wolfe used a modified instrument originally developed by Noe (1988) to study the extent to which faculty members believe they utilize the mentoring functions established by Brzoska et al. (1987). Wolfe reported that faculty members believe they often practice all six mentoring functions. Currently, researchers know that (1) student-faculty relationships are often looked upon as a mentoring process; and (2) agricultural faculty in higher education often practice all six mentoring functions; however, from the students' perspective, do undergraduate students experience the mentoring process and functions?

### Purpose and Objectives

The purpose of this study was to determine students' perceptions regarding mentoring functions at Iowa State University's College of Agriculture and Life Science (CALs). To accomplish the purpose of this descriptive census study, three objectives were established, which were to 1) describe demographic characteristics of the student participants, 2) determine undergraduate students' perceptions about mentoring, and 3) determine the extent to which mentoring functions are practiced by CALs faculty based on student experiences.

### Methods

This study was designed as a descriptive census research study. The population for this study consisted of all undergraduate students ( $N = 2329$ ) enrolled in CALs during the 2007 spring semester. Web-based surveys have become increasingly popular and are often successful on college campuses because colleges typically have universal email access (Ary et al., 2002), resulting in prompter returns, lower item non-response, and more complete answers to open-ended questions (Dillman, 2000). Therefore, a web-based survey design was deemed appropriate for the study.

A survey instrument developed by Wolfe (2006) served as the basis for this study. Wolfe studied mentoring from the faculty perspective in a College of Agriculture. For this study, wording was changed to reflect the undergraduate population involved. The instrument was divided into four sections. The first section focused on the students' perceptions of mentoring as they experienced it in the CALs. The second section focused on the extent to which students experienced mentoring practices based on the mentoring functions of Brzoska et al. (1987). The third section asked general mentoring questions and the fourth section focused on demographic questions.

Wolfe reported a post-hoc reliability coefficient for the survey instrument of .89 using Cronbach's alpha.

Students were contacted five times by email as recommended by Dillman (2000); communications included a pre-notice letter, a letter containing the Universal Resource Locator (URL) for the web-based questionnaire, a thank-you/reminder, a follow-up letter with the URL for the questionnaire, and a final contact. SurveyMonkey (1999) was the web-based software used to develop and administer the questionnaire. Non-response error was controlled for by contacting a random sample of non-respondents via telephone. The questionnaire was administered and data were collected to determine if there were any differences between respondents and non-respondents when controlling for non-response error (Linder et al., 2001). Analysis confirmed that no statistically significant differences existed between respondents and non-respondents. The overall response rate was 31.34%. However, several respondents declined the invitation to participate and other respondents submitted incomplete responses. As a result, the useable return rate was 22.84% ( $n = 532$ ).

Data were downloaded and imported into SPSS. Descriptive statistics were calculated and used to analyze the data. The demographic questions were analyzed and reported using frequencies and percentages. Student responses to the mentoring statements were analyzed using means and standard deviations.

### Findings

The purpose of this exploratory study was to determine CALs undergraduate students' perceptions regarding mentoring functions. The study sought to identify specific mentoring functions and the perceptions that undergraduates have of mentoring within CALs. The findings are presented in three major sections relating to the study's objectives: 1) describe demographic characteristics of the student participants; 2) determine undergraduate students' perceptions about mentoring; and 3) determine the extent to which mentoring functions are practiced by CALs faculty based on student experiences.

**Objective 1: Describe demographic characteristics of the student participants.** The average age of the respondents was 21 years old ( $SD = 3.4$ ), with a range from 18 to 56 years old. The percentage of respondents between 18 and 24 years old was 94.7. The percentage of respondents between the age of 25 and 29 years old was 3.4. The percentage of respondents between the age of 31 and 56 years old was 1.7.

The average number of credits upon completion of the fall 2007 term indicated by respondents was 82.87 credits ( $SD = 41.3$ ). Of the 484 respondents, 60.1% indicated that they completed course work at another institution prior to enrolling in CALs. The average number of transfer credits brought into

CALS by those respondents was 29.28 credits ( $SD = 27.9$ ). Students were asked to indicate their major. After examining departmental enrollments by major within CALS, it was deemed that the number of respondents for each major who completed the survey was representative of the college.

Undergraduates were surveyed to determine which student groups they associated with during their collegiate experience. Students were allowed to choose more than one group. The majority of students (61.6%) selected Student Organizations/Clubs as the group with which they were associated. The group with the least association with students was the category "Other." Students were asked to specify when they selected this category. Those that responded indicated groups such as Religious groups, Women in Science and Engineering, ROTC, and the Honors program. Table 1 illustrates groups with which CALS students are associated.

Group Association	<i>N</i>	Percentage
Student Organizations/Clubs	357	61.6 %
Learning Communities	241	41.6 %
Student Employee in the CALS	137	23.6 %
Internships for academic credit	102	17.6 %
Independent Study	59	10.2 %
Science with Practice	42	7.2 %
Other (please specify)	37	6.4 %

Students were asked to indicate if they interacted with faculty outside of class on at least a weekly basis. Of the 487 that responded, 63.2 percent said that they did not interact with faculty outside of class on at least a weekly basis. The 36.8 percent that responded yes described their interaction. The most common theme that arose from the open-response was that of clubs or student organizations related to their major field of study.

The percentage of respondents indicating their gender as female was 50.5. The percentage of respondents indicating their gender as male was 49.5. The majority of students (94.2%) indicated white or Caucasian as the population group that best described them. This was followed by Latino or Hispanic (2.2%), Asian or Pacific Islander (1.6%), African American or Black (0.8%), and American Indian (0.3%).

**Objective 2: Determine perceptions about mentoring.** To accomplish this objective, respondents were asked to identify the extent to which they viewed each mentoring function item based on the following Likert-type scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

Of the 24 items that students were asked to identify the extent to which they agreed, A mentor is an information source received the strongest

agreement ( $\mu = 4.12$ ,  $SD = 0.60$ ). Mentoring is the same as academic advising received the weakest agreement ( $\mu = 2.50$ ,  $SD = 0.90$ ). Table 2 illustrates the mean responses of undergraduate students for all the mentoring function items.

When students were asked to give their definition of undergraduate mentoring, three themes surfaced. The first theme was that the mentoring process involved an older, experienced person interacting with a younger, inexperienced person. Some examples were: "An individual that has experienced a given path of choices." "Getting advice and help from someone who has more knowledge and experience than you in the area you are studying." "A mentor is someone who is available to guide an individual with less experience or knowledge to success."

The second theme was that mentoring involves a transfer of information related to academic and non-academic areas via the processes of advising, helping,

or guiding. Examples include: "That undergraduate mentoring is a place where you can go to discuss problems of any type - classes, work, or family problems, and being given advice on what to do." "Mentors assist and guide, but they do not demand students do one thing or another." "A mentor would be more

concerned about my home life and life outside of school." "Answering questions/providing advice."

The third theme was that mentoring works toward a goal or means to produce positive experiences. Examples include: "Helping a student to develop into a productive and well-balanced individual by the time they graduate." "This person should get to know the undergraduate in order to build a positive and trusting relationship." "Being a positive role model." "To provide support and information necessary for efficient advancement through undergraduate coursework and into graduate school and/or the work world." Ready to help in advancement in all areas of life."

**Objective 3: Determine the extent to which mentoring functions are practiced by CALS faculty based on student experiences.** To accomplish this objective, respondents were asked to identify the extent to which they experienced mentoring being practiced by CALS faculty based on the following Likert-type scale: 1 = Never; 2 = Sometimes; 3 = Often; and 4 = Always. Students were asked to respond to 24 items regarding mentoring, based on their experiences working with CALS faculty. Of those items, 15 items had an average rating of "sometimes" and nine items received a rating of "Often." The mentoring function item, "Based on my experiences, CALS faculty display

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professionalism while on the job,” received the highest mean value ( $\mu = 3.33$ ;  $SD = 0.69$ ). Table 3 illustrates the average responses for the 24 items.

Students were asked if they considered any CALS faculty or staff member as a mentor. Of the 490

students that responded, 55.3 percent considered any CALS faculty or staff member as a mentor. Students were asked to explain why they considered this person a mentor. The explanations that were provided lead to the development of two themes. The

**Table 2. Distribution of means and standard deviations of undergraduate’s perceptions of mentoring statements**

Statement	<i>N</i>	$\mu$	<i>SD</i>
A mentor is an information source	572	4.12	0.60
Mentors play many roles	574	4.11	0.60
A mentor demonstrates strategies for accomplishing goals	572	4.02	0.60
Mentoring is a process involving an exchange of information	572	4.02	0.60
A mentor observes student performance	571	3.82	0.67
Mentors should be active not passive	577	3.81	0.73
A mentor assists the student in developing a sense of professional identify	573	3.80	0.61
Mentoring is career development assistance	572	3.74	0.68
Mentoring consists of frequent informal conferences	570	3.72	0.70
A mentor serves as an advocate for the student	571	3.70	0.69
Mentors demonstrate exemplary job skills	573	3.70	0.70
Mentoring is a skill that requires training	577	3.61	0.89
A mentor is a socialization process	570	3.60	0.76
Mentoring involves counseling a student	570	3.60	0.76
The best mentors are directive in the process	572	3.60	0.71
Mentors that are chosen are more effective than assigned mentors	575	3.50	0.84
Mentoring is a systematic process	578	3.40	0.77
Mentoring is a relationship between an older, more experienced person and a younger, inexperienced person	575	3.40	1.00
A mentor is a role-specific model in the discipline	571	3.40	0.79
Mentoring is a casual, laid back process of giving advice	576	3.30	0.93
Mentoring is based on friendship	574	3.30	0.84
The student should lead the mentoring process	575	3.10	0.83
Mentors have a greater intellectual status than students	574	2.90	0.91
Mentoring is the same as academic advising	574	2.50	0.90

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

**Table 3. Distribution of means and standard deviations of the mentoring practices of CALS faculty**

Function	<i>N</i>	$\mu$	<i>SD</i>
<b>Role Model Function Items</b>			
<i>Based on my experiences, CALS faculty...</i>			
display professionalism while on the job.	484	3.33	0.70
demonstrate realistic ways of solving problems.	487	3.07	0.67
exhibit commitment to my educational/career growth and development.	486	3.04	0.75
model the work behavior they expect me to imitate.	487	3.00	0.71
believe I will strive to be like them if I obtain a similar career.	480	2.45	0.84
<b>Demonstration Function Items</b>			
<i>Based on my experiences, CALS faculty...</i>			
demonstrate effective listening skills in conversations with me.	485	3.02	0.72
encourage me to prepare for career advancement.	482	3.00	0.77
suggest specific strategies for accomplishing project goals.	482	2.74	0.73
share history of their career with me.	483	2.73	0.81
share ideas with me about my projects.	480	2.70	0.78
<b>Observation and Feedback Function Items</b>			
<i>Based on my experiences, CALS faculty...</i>			
convey feelings of respect for me as an individual.	484	3.06	0.80
encourage me to explore alternatives rather than just provide solutions.	484	2.78	0.73
provide suggestions concerning current problems I encounter.	482	2.75	0.71
encourage me to try new ways of behaving on the job.	477	2.41	0.83
<b>Informal Contact Function Items</b>			
<i>Based on my experiences, CALS faculty...</i>			
keep feelings and doubts I have shared with them in strict confidence.	480	3.18	0.84
are easy to approach when I have questions.	489	3.00	0.72
show interest in my activities outside of work (i.e., academics, extra-curricular activities, etc.).	488	2.70	0.81
are available outside of working hours for help.	487	2.45	0.65
interact with me socially outside of work.	486	2.20	0.84
<b>Direct Assistance Function Items</b>			
<i>Based on my experiences, CALS faculty...</i>			
convey empathy for the concerns I have discussed with them.	481	2.60	0.75
share personal experiences as an alternative perspective to my problems.	483	2.52	0.78
help me meet new colleagues in the department.	483	2.44	0.82
give me responsibilities that increase personal contact with other individuals on and off campus.	482	2.40	0.81
encourage me to talk openly about anxieties and fears that detract from my work.	483	2.31	0.88
Scale: 1 = Never, 2 = Sometimes, 3 = Often, 4 = Always			

first theme was an awareness of needs. Examples include: “*Dr. T. has encouraged me to pursue my goals and has offered insights as to alternative options when deciding on my future career.*” “*This person is concerned with my life besides classes.*” and “*Discussion about life happenings.*”

The second theme was that similar interests were shared by the individuals. Examples include: “*He shares past experiences in the real world, which is very interesting.*” “*This individual shares the same interests outside of academics with me and the same beliefs towards that subject and often engages in discussions both on my future within that field and the field as a whole.*” and “*They have actively taken an interest in what I do.*”

## Conclusions and Recommendations

Undergraduate students in CALS take a broad view of mentoring. They perceive mentors as individuals who play many roles, serve as resource persons, and model the strategies they suggest. Undergraduates view mentoring as an active and interactive process where an exchange of ideas can take place. Students suggest that the focus of mentoring includes, but is not limited to, professional and career development, which aligns with previous research findings (Gold, 1992; Kram, 1985; Levinson et al., 1978). Students do not perceive mentoring to be a directive or systematic process that must occur with mentors who have a greater intellectual status than the protégé. They also perceive that mentoring is not

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necessarily the same as friendship and academic advising.

In responding to the five statements for each mentor function and based upon their experiences, students reported that faculty often practice role modeling, demonstrating, observing and providing feedback, and providing informal contact. Direct assistance was provided only sometimes according to undergraduate responses. These findings are similar to those of Wolfe (2006) when she studied faculty perceptions of mentoring. Except for the direct assistance function, both faculty and undergraduate students believe faculty-student mentoring functions occur often.

Students consider those faculty members who are supportive, aware of student needs, and show concern for students as mentors. These types of mentoring can occur in a variety of fashions and could occur during academic advising, informally after class, during office hours, during research and laboratory times, and as part of their involvement in clubs and organizations. Students do perceive faculty as mentors and seem to find themselves drawn to faculty mentors who have similar interests and career goals, are engaged with students outside of the classroom, and are willing to assist students in their personal and professional development. The undergraduate student's definition of mentoring has very similar attributes and wording compared to the one provided by Wolfe (2006).

Mentoring in higher education is a combination of formal and informal mentoring and is influenced greatly by relationship building. Although there is value in formalizing the mentoring process, undergraduate students do not seem to get caught up in the structure and processes associated with mentoring. Students seem more concerned with the outcomes of the relationship with the mentor. Chao et al. (1992) discovered similar results.

Although the undergraduate students didn't use the same terminology, the two common denominators in meeting the needs and expectations of undergraduate mentoring were career and psycho-social development (Gold, 1992; Kram, 1985; Levinson et al., 1978). These two categories of mentoring would provide a sound foundation from which to develop mentor training for faculty.

Faculty should be offered mentoring training. The six functions (Brzoska et al., 1987) would provide an appropriate structure for faculty development related to mentoring. Faculty members' understanding of the mentoring functions and the mentoring expectations of undergraduates may go a long way in enhancing the student experience and, in particular, personal growth and career success. Institutions should be cautious of over-formalizing the mentoring process at the undergraduate level. The findings of this study and others (Chao et al., 1992; Ragins and Cotton, 1999) would provide a rationale for equipping the faculty with the tools and knowledge associated

with mentoring in a manner conducive to successful informal mentoring.

Formal mentoring programs in the college should be cautious of being too restrictive and formalized. Students report that the non-formal approach, or at least the appearance of a less formal structure, is beneficial. Programs may want to be cautious of randomly assigning mentors and protégés. Chao et al. (1992) suggested that the two parties would have a higher probability of success if they were attracted to one another rather than randomly assigned.

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