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Agriculture Faculty Perspectives on Undergraduate Mentoring: Definitions, Practices, and Processes



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Abstract

Literature indicates that a wide and diverse understanding of mentoring at the undergraduate level exists. However, the literature is sparse regarding what mentors know about existing mentoring processes and related practices. This study sought to describe faculty perspectives regarding undergraduate mentoring within Iowa State University's College of Agriculture and Life Sciences. Findings indicate that faculty members realize that mentoring is a complex role and it is more than just academic advising. Based upon a synthesis of faculty member definitions of undergraduate mentoring, the following definition is offered: a form of teaching where faculty members provide advice, guidance, and counsel in the areas of academic, career, and personal development, which can occur either individually or in small groups. Faculty members believe mentoring is a process that requires skill development. It is recommended that the college offer professional development opportunities focused on skill enhancement and best practices in the areas of career, personal, and academic development. Faculty members prefer short workshops and not more than two sessions on any one topic.

Introduction

Today mentoring has been explored and described in several different aspects, including business and management positions (Fagenson-Eland et al., 1997; Scandura, 1998); first-year teacher settings (Edwards and Protheroe, 2004); and youth programs such as Big Brother/Big Sister (Smink, 1999). A few studies have been conducted at the university level involving undergraduate students and faculty (e.g., Anderson et al., 1995; Wolfe et al., 2008). Literature suggests that those who are mentored perform better on the job, advance more rapidly within the company, and experience greater job satisfaction than their non-mentored counterparts (Fagenson-Eland et al., 1997; Smink, 1999).

The concept of mentoring is as broad and diverse as the disciplines that study it. Several researchers have offered discipline-specific definitions of mentoring (Brzoska et al., 1987; Fagenson-Eland, 1989; Kram, 1985; Levinson et al., 1978; Moses, 1989). For example, mentoring in the management/organizational field was defined as, "[A mentor is] someone in a position of power who looks out for you, gives you advice, brings your accomplishments to the attention of other people who have power in the company" (Fagenson-Eland, 1989, p. 312). An example definition from the education field was, "Ideally, a professor takes an undergraduate or graduate student under his or her wing, helps the student set goals and develop skills, and facilitates the student's successful entry into academic and professional circles" (Moses, 1989, p. 9). From the psychology field, Levinson et al. (1978) described a mentor as one who "takes a younger man under his wing, invites him into a new occupational world, shows him around, imparts his wisdom, cares, sponsors, criticizes, and bestows his blessings" (p. 23). Finally, Jacobi (1991) reinforced the variety of mentoring definitions when, as part of a comprehensive review of literature on mentoring and undergraduate academic success, she identified 15 different definitions of mentoring within the education, management, and psychology disciplines.

According to Stanley and Lincoln (2005), a mentor is commonly described as a coach, a guide, a counselor, a role model, a peer advisor, and/or a sponsor. Brzoska et al. (1987) defined a mentor as one who helps guide a protégé through a developmental process, whether it's a transition from childhood to adulthood or from student to professional. Building on this idea, Kram (1985) defined mentoring as a developmental relationship involving an experienced person who serves as a mentor to another individual, often called a protégé, by providing career and/or personal support.

The relationship between the mentor and the protégé generally focuses on the areas of career and

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psychosocial development (Kram, 1985) and, in education, includes academic development. Within each of these categories, mentoring functions have been identified. While Kram identified individual mentoring functions for business, Brzoska et al. (1987) recommended six mentoring functions for educational settings, which include: 1) informal contact, 2) role modeling, 3) direct assistance, 4) demonstration, 5) observation and feedback, and 6) professional development planning assistance.

One of the most classic examples of mentoring is the mentorship of new employees (Edwards and Ogden, 1998; Edwards and Protheroe, 2004), which explains why the scope of mentoring research has primarily been focused on business and industry rather than education (Fagenson-Eland, 1989; Orpen, 1995; Scandura, 1992). In the business realm, mentoring has also been found to benefit protégés psychosocially. Kram (1985) found that protégés experienced more support, respect and admiration when mentors were inviting and compassionate. She further claimed that as a result of the mentoring relationship, protégés felt they had more competence, self-confidence, and a more positive outlook of their future. Additionally, mentors have been found to benefit from mentoring. Mentors in Kram's study experienced new attitudes and values of support and nurture.

Research related to mentoring in the education and vocational training areas has primarily been associated with higher education, specifically faculty to graduate student mentoring (Anderson et al., 1995; Merriam et al., 1987). Studies at the undergraduate level have been less prevalent and focus largely on the protégés' perceptions about the mentor's ability to mentor and the impact of the mentoring relationship (Anderson et al., 1995; McCarthy and Mangione, 2000; Van Ast and Field, 2005).

Research has been conducted to determine whether or not mentoring has an impact on undergraduate student academic achievement. Anderson et al. (1995) reported, "Students who received advice and guidance about their educational program, intellectual challenge and stimulation, letters of recommendation, or faculty interest in their education progress [from mentors] had higher grade point averages than those who did not receive such attention" (p. 17).

In an attempt to educate faculty mentors on how to be effective mentors, Gaston and Jackson (1998) reported that faculty mentors who participated in an eight-hour workshop consistently received higher student satisfaction ratings compared to mentors who did not attend the workshop. Based on this study, the workshop appears to have positively impacted student evaluations of mentors. However, faculty and administrators alike are often uncertain about how to cultivate effective mentoring relationships with undergraduate students (Stanley and Lincoln, 2005).

The lack of understanding of the mentoring processes and functions has been known to create negative mentoring experiences (Kram, 1983; Eby et al., 2000). Eby et al. (2000) reported that neglect, deficient interpersonal skills on the mentor's part, abuse of authority, and contradictory values and work ethic differences between the mentor and protégé were the most prevailing negative experiences encountered by the protégé. Eby et al. (2000) believed that these factors were distinct catalysts of negative mentoring experiences. Edwards and Protheroe (2004) reported that mentors were merely doing what was required of them and focused feedback on descriptive reiterations of observed events. Kram (1983) summarized this belief by concluding that mentoring relationships that only provide a few roles are characterized as having "little intimacy and weak interpersonal bonds" (p. 23), which are viewed as detrimental to both career and psychosocial development.

Even with all of this focus on mentoring, Jacobi (1991) argued that mentoring is not clearly conceptualized in education and more research about mentoring at the undergraduate level is strongly encouraged. Even when mentors are educated and rated as successful, it is generally unknown which mentoring elements taught at the workshop were actually practiced by the mentors before attending the workshop (Gaston and Jackson, 1998). Consequently, researchers have been unsuccessful in determining the effectiveness of mentoring training on their abilities to mentor students because little is known about existing knowledge of the mentoring process and the mentoring functions already being practiced (Merriam et al., 1987). Thus, determining mentors' perceptions of the mentoring process would aid in identifying specific mentoring themes for which professional development should be provided.

Purpose and Objectives

The purpose of this descriptive census study was to determine the perceptions of the faculty in the College of Agriculture and Life Sciences at Iowa State University regarding undergraduate mentoring.

The objectives of the study were to: (1) Describe selected demographic characteristics of the faculty participants; (2) Determine faculty members' perceptions of the mentoring process; (3) Explore how faculty members define mentoring; (4) Determine the training and professional development needs of faculty in the area of mentoring.

Methods and Procedures

This descriptive census research study was part of a larger mentoring study of College of Agriculture and Life Science faculty members at Iowa State University. A web-based survey design was deemed appropriate and utilized for the study because the study's objectives sought to explore and describe an issue and related behaviors. Ary et al. (2002) noted

that because college faculty and staff typically have universal e-mail access, web survey links sent via e-mail have become increasingly popular and are often successful on college campuses. In addition, web-based surveys have the advantages of prompter returns, lower item non-response, and more complete answers to open-ended questions (Dillman, 2000).

After receiving Institutional Review Board approval to study human subjects, faculty members were contacted five times as recommended by Dillman (2000). Those contacts included a pre-notice letter, the questionnaire, a thank-you/reminder, a replacement questionnaire, and a final contact. SurveyMonkey (1999) was used to administer the web-based questionnaire and track respondents and non-respondents. Non-response error was controlled for using a random sample of 20 non-respondents contacted via telephone and administered the questionnaire to ensure the statistical power necessary to detect differences between respondents and non-respondents when controlling for non-response error (Linder et al., 2001). Fourteen randomly selected statements were used to make comparisons between respondents and non-respondents. Analysis confirmed no statistically significant differences existed. The overall response rate was 53.7% (n = 203). It should be noted that a reduced sample size reported in the findings was due to respondents' submission of incomplete instruments.

Dillman's (2000) pre-testing approach was used to determine content and face validity of the instrument. Post-hoc reliability coefficient for the survey instrument was determined by Cronbach's alpha reliability test (Wolfe et al., 2008). The reliability coefficient for faculty perceptions of the mentoring process reported in this study was .89.

Descriptive statistics were used to analyze the data using SPSS. The demographic questions were analyzed and reported using frequencies and percentages. Faculty responses to mentoring perception statements were analyzed using means and standard deviations.

Findings

The purpose of this descriptive census study was to determine the perceptions of the faculty in the College of Agriculture and Life Sciences regarding undergraduate mentoring. The findings are presented by objective.

Objective 1: Describe selected demographic characteristics of the faculty participants.

Respondents were predominantly professors (39.9%), associate professors (24.5%) and assistant professors (15.9%). The remaining faculty held other titles such as lecturer or adjunct professor. Faculty represented all College of Agriculture and Life Science departments and the percentage of faculty responding to this study was proportional to the percentage of college faculty in each department. When asked their primary responsibility, 51.6% reported research, 24.2% reported teaching, 13.4% reported extension, and 10.8% reported "other," which covered special cases such as administrative appointments, 50% research and 50% teaching, or equal assignments of research, teaching, and extension.

Respondents were asked to identify how many years they had been employed by Iowa State University, along with their age. The average number of years employed was 15.4 (SD = 10.7) and ranged from 1 to 50 years. The age of faculty ranged from 27 to 80 years old with a mean of 49.9 (SD = 9.1)

Objective 2: Determine faculty perceptions of the mentoring process.

Table 1 displays descriptive statistics of faculty responses to 25 statements regarding mentoring. Faculty members were asked to indicate the extent to which they agreed with each statement based on a five-point, Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree).

The statement, "Mentors play many roles," had

Table 1. Faculty perceptions of mentoring (n = 203)

Mentoring Statements	n	μ	SD
Mentors play many roles.	200	4.19	0.65
Mentoring is a process involving an exchange of information.	199	4.18	0.51
A mentor assists the protégé in developing a sense of professional identity.	200	4.16	0.55
A mentor is an information source.	200	4.16	0.59
A mentor demonstrates strategies for accomplishing goals.	200	4.11	0.53
Mentoring is career development assistance.	198	4.01	0.68
A mentor observes protégé performance.	199	3.96	0.63
Mentors should be active not passive.	199	3.94	0.68
Mentoring is a systematic process.	200	3.78	0.85
Mentoring is a skill that requires training.	200	3.74	0.82
Mentoring involves counseling a protégé.	200	3.71	0.74
Mentors demonstrate exemplary job skills.	199	3.67	0.71
Mentors that are chosen are more effective than assigned mentors.	196	3.49	0.95
Mentoring consists of frequent informal conferences.	200	3.43	0.88
A mentor serves as an advocate for the protégé.	200	3.41	0.87
A mentor is a role-specific model in the discipline.	196	3.38	0.96
A mentor serves as a sponsor to a protégé.	200	3.30	0.85
Mentoring is a socialization process.	199	3.17	0.93
The best mentors are directive in the process.	199	3.13	0.90
Mentoring is a relationship between an older, more experienced person and younger, inexperienced person.	199	3.10	1.05
Mentoring is based on friendship.	200	2.78	0.89
The protégé should lead the mentoring process.	198	2.71	0.82
Mentors have a greater intellectual status than protégés.	198	2.60	0.93
Mentoring is a casual, laid back process of giving advice.	200	2.24	0.82
Mentoring is the same as academic advising.	197	2.09	0.86

Scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree

the highest mean value ($M = 4.19$; $SD = .65$). “Mentoring is a process involving an exchange of information,” closely followed ($M = 4.18$; $SD = .51$). The next two statements, “A mentor assists the protégé in developing a sense of professional identity” and “A mentor is an information source,” each had a mean of 4.16 with standard deviations of .59 and .55, respectively.

The respondents disagreed with two statements. The statement which had the largest disagreement was “Mentoring is the same as academic advising” ($M = 2.09$; $SD = 0.86$). The other statement was “Mentoring is a casual, laid back process of giving advice” ($M = 2.24$; $SD = 0.82$).

Objective 3: Explore the definition of mentoring.

Respondents were asked to provide their own definition of undergraduate mentoring. Of the 126 definitions provided, 21 common categories of terms and phrases emerged (Table 2). Some of the statements provided elements of more than one category and were counted in multiple categories.

The most prevalent terms and phrases related to

important part of mentoring. A mentor can provide a sequential learning experience to build on the base of knowledge.”

The second most used terminology to define mentoring ($n = 30$) was related to communication and included terms such as advice, feedback, interaction, and counseling. Examples of faculty members' definitions that included such terminology are as follows.

“Providing advice, support and encouragement to students regarding their personal, academic, and professional development. Two-way communication is an essential part of this process.”

“Being a role model and providing advice for students to reach their full potential in their chosen field.”

“Providing a sounding board for students - listening to their concerns, and providing advice when appropriate.”

The next three most common categories were assistance, support, encouragement ($n = 28$), experience and opportunities ($n = 28$), and guide, guiding, and guidance ($n = 26$). Two or fewer faculty members used terms such as coaching, confidence,

facilitate, and teaching to define undergraduate mentoring.

Objective 4: Determine the training and professional development needs of faculty in the area of mentoring.

The respondents were asked to report any formal training they had previously received on the mentoring process. Eighty-seven percent of the respondents said that they had not had any formal training on the mentoring process. Of the 13% of the faculty members who said they did receive some sort of formal training, the majority of the respon-

dents claimed to have received mentor training from faculty mentoring programs such as mentoring for promotion and tenure, student club advising, professional development, or academic affairs and student services updates. Other faculty received training through workshops offered by the USDA, Boys and Girls Clubs of America, and the United Way. Respondents also reported receiving training as part of their graduate course work, serving as a 4-H leader, or volunteering with the Peace Corps. Two respondents received training while working in the agriculture industry.

Only 18.2% of the respondents reported they had been offered professional development related to

Table 2. Terms and phrases used to define undergraduate mentoring (n = 126)

Terms and Phrases	n
Personal, Academic, and Career/Professional Development	57
Advice, Communication, Feedback, Interaction, Counseling	30
Assistance, Support, Encouraging/Encouragement	28
Experience, Opportunities	28
Guide/Guiding/Guidance	26
Goals	17
Role Model	14
Success, Succeed	13
Reference, Resource, Someone to go to for information, Available	12
Development	9
Listening	9
Process	8
Relationship	7
Respect, Non-judgmental	7
Research	5
Individuals with <i>less</i> experience/Individuals with <i>more</i> experience	4
Trust	3
Coaching	2
Confidence	2
Facilitate	2
Teaching	1

personal, academic, and professional/career development. These three terms, or similar versions and meanings of the terms, were found in 57 responses. Examples of how the terms were used are as follows.

“Mentoring is a combination of academic, career and personal advice. It is also providing guidance when needed.”

“Assist students with progression through their academic programs, be a first line of contact for questions related to academics, student life, and career development/preparation.”

“An undergraduate mentor provides opportunities for students to learn new career development skills. Experience and exposure to new concepts is an

mentoring while employed by Iowa State University. Approximately 53% of the respondents were interested in receiving professional development related to mentoring if it were offered by the institution. The following is a list of topics the respondents suggested for professional development: Mentoring strategies/Techniques for successful mentoring; Motivating and engaging students; Assisting with career development; Establishing and communicating expectations between mentor and protégé; Assisting students with goal setting and goal attainment, and; Developing counseling skills (academic, financial, and personal issues) including referral procedures.

Respondents also provided suggestions for the delivery of professional development on mentoring. They proposed organizing information-based workshops or seminars that were no longer than one hour in length and consisted of no more than two sessions per topic. Respondents suggested focusing on mentoring strategies and resources and having experienced mentors speak about the basics of mentoring. It was also requested that a list of professional contacts be developed as a reference for dealing with problems outside of faculty expertise (e.g., counseling, safety issues, student health, etc.).

Conclusions

This census descriptive study is representative of the entire faculty in the College of Agriculture and Life Sciences and clarifies the faculty's perceptions of undergraduate mentoring at Iowa State University. The results indicate that faculty members realize that mentoring is a complex role and it is more than academic advising. Faculty understand the importance of mentoring and that they are expected to fulfill that role. Based upon their responses to the mentoring statements, faculty members understand that mentoring is a process and that, as mentors, they are looked to for information and are role models and counselors for career development and professionalism. Faculty members also believe there are skills involved in mentoring, which require professional development.

This study found that there was not a precise definition of mentoring among faculty members in the College of Agriculture and Life Sciences. However, several general themes emerged based upon the terminology used by faculty members, including personal, academic, and career/professional development; advice, communication, feedback, interaction, and counseling; assistance, support, and encouragement; and experience and opportunities. The themes that emerged are similar and reflective of Kram's (1985) career and psychosocial functions and fit within the Mentor Function Model (Brzoska et al., 1987).

Based upon a synthesis of the definitions presented by the faculty members, the following is offered as a definition for undergraduate mentoring:

a form of teaching where faculty members provide advice, guidance, and counsel in the areas of academic, career, and personal (psycho-social) development, which can occur either individually or in small groups.

There is a need for and an interest in professional development in the area of mentoring. Faculty members have an interest in learning the roles related to mentoring and developing the necessary skills and strategies to meet the needs and expectations of their protégés. Professional development focused on skill development and best practices should be offered in workshop formats.

Recommendations

It is recommended that the college consider providing support and encouragement for professional development in the area of mentoring using a combination of information-based seminars and strategy-based workshops presented by a combination of experts in the field of mentoring and experienced mentors. These professional development activities should be short, one-hour programs focused on a specific topic with no more than two workshops offered each academic term. Topics to consider would include understanding and implementing the functions of mentoring, communications between mentor and protégé, best practices of mentoring, motivating and engaging students, assisting with career development, and tips on counseling students with academic, financial, or personal issues.

Kram's (1985) career and psychosocial functions and the Brzoska et al. (1987) Mentor Functions Model provide a framework for offering professional development programs. It is recommended that the first workshop consist of introducing faculty to the various functions of mentoring and a working definition of undergraduate mentoring. Subsequent professional development activities can focus on the needs and interests of the faculty. Based upon this study, the most appropriate topics would include counseling, direct assistance, and assistance with professional development plans.

A reasonable solution to preventing negative mentoring experiences would be to educate mentors on specific mentoring practices. However, basing professional development on undergraduate mentoring is less prevalent at the college and university level (Fagenson-Eland, 1989; Orpen, 1995; Scandura, 1992). Additionally, with the plethora of terms and definitions used to describe mentoring, it is important to understand what faculty members know about the mentoring process and come to some universal definition of the process before a training workshop or professional development activity is presented.

The value of this study is its focus on undergraduate mentoring since research related to mentoring in education has offered little support for or information about undergraduate faculty mentors. Despite

the fact that over the years studies on the impact of mentoring have been numerous and dozens of colleges and universities have implemented faculty-to-student mentoring programs with marginal evidence of effectiveness, there is still a general lack of consistency in this concept called “mentoring.” The results of this study indicate that mentors believe they know something about mentoring. However, failure to understand the significance of mentoring ultimately influences mentoring behaviors, which can equate to inconsistent mentoring experiences.

This study was a census study of one College of Agriculture and Life Sciences at Iowa State University. To be able to generalize beyond this college, this study should be replicated. In the meantime, it may be appropriate for other colleges of agriculture to consider offering professional development programs in the area of mentoring. Those institutions should consider using Kram's (1985) career and psychosocial functions and the Brzoska et al. (1987) Mentor Functions Model as sources of information to plan and conduct professional development activities on mentoring. Additional research is required to better understand the professional development needs of the faculty.

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