

Agriculture Students' Perceived Competency of Skills Necessary to be Successful in College

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Abstract

One of the reasons college students fail to successfully complete a degree is poor academic and college skill preparation (U.S. Department of Education, 2011). This study attempted to identify deficiencies in skills considered necessary to be successful in college by surveying agriculture students at a two year agricultural college. Participating students were asked to indicate their perceived importance of and competency for each skill. Data was analyzed using Borich's model to calculate a Mean Weighted Discrepancy Score for each skill. The data indicated that students need the most assistance with "Eliminating distractions from your study environment" and "Dealing with stress in a healthy way." With these skill deficiencies identified, faculty and staff can take measures to improve students' competency in these skills and potentially increase student success.

Introduction

With the current economic crisis and high unemployment rate in our country, it is increasingly important for individuals to be competitive in the job market. Many of those looking for work do not have the skills required by companies looking to hire—resulting in high unemployment even as businesses desperately seek new talent (Bridgeland, et al., 2011, p. 2). In the United States, a gap has emerged between the needs of the employers and the education of the American workforce (Bridgeland, et al., 2011). If our nation fails to bridge this gap, we will risk our ability to compete effectively on the global stage (Bridgeland, et al., 2011, p. 2).

In the next decade, a postsecondary certificate or degree will be required by more than half of all new jobs; however, fewer than half of those who begin postsecondary training earn a certificate or degree within six years of initial enrollment (U.S. Department of Education, 2011, p. 2). In 2010, the average six-

year bachelor's degree graduation rate for the state universities was 37.2%, while the rate for state colleges was a mere 13.9% (University System of Georgia, 2011). While the nation appropriately focuses on ensuring that more students graduate from high school ready for college, little attention has been paid to the hidden crisis of undergraduates who leave college and other post-secondary institutions before completing their degrees (Bridgeland, et al., 2011, p. 2). One of the reasons students fail to successfully complete a degree is poor academic and college skill preparation (U.S. Department of Education, 2011). If steps are taken to identify students' deficiencies in these college skills, institutions can take measures to improve students' competency in them and potentially increase student success.

In 2004, 45% of first-time freshman chose to begin the higher education experience through community colleges. Motivation to attend a community college may be influenced by several factors: geography, financial status, social climate and academic standing (Branson and Green, 2007, p. 5). Some students cannot fulfill academic admission requirements of large universities, so they begin their college career at a smaller two-year institution (Branson and Green, 2007).

Significant differences exist between students beginning their collegiate career at two-year institutions and those enrolling at four-year institutions (Johnson, et al., 1991, p. 41). Research indicates two-year college transfer students usually have lower test scores and grade point averages compared to students beginning their college career at a four-year institution (Johnson, et al., 1991). It has also been found that two-year college agriculture students were more likely to be from rural areas or small towns and were more likely to have been 4-H or FFA members than were students at four-year institutions (Johnson, et al., 1991).

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Some studies have been conducted over the past few decades to determine if students who transfer from two-year institutions are adequately prepared for the upper-level coursework at four-year universities. Some studies have shown that transfer students have been less prepared than their non-transfer counterparts, while other studies have found preparation of upper level courses of both transfer students and their non-transfer counterparts to be equivalent (Branson and Green, 2007, p. 5). A study at Washington State University's College of Agriculture indicates that transfer students 1) have some difficulty in the first semester after transfer, 2) experience an adjustment shock and 3) require special counseling (Bennett, 1974, p. 87).

Regardless of where a student begins their college career, certain skills are necessary for the majority of students to be successful in college. Handel (2007) believes academic preparation is the single most important determinant of student success (p. 41). Townsend and Wilson (2006) said undergraduate students' persistence is influenced not only by their own characteristics, goals and commitments but also by their experiences academically and socially while in college, which indicates skills necessary for students to be successful at a four-year institution can be learned in the process (p. 2).

New programs, such as learning communities and first-year seminars, are being implemented in various institutions across the country to give new students and faculty the chance to know one another more intimately than in large lecture halls. The underlying assumption behind each of these practices is that the more students are involved in or integrated into college life, the greater the likelihood they will stay in college and attain their degree (Townsend and Wilson, 2006). While academic skills are a necessity for students to be successful, one must also take into account non-academic skills, which may determine success or failure for some students.

Some experts contend that helping students address these non-academic deficiencies is just as important as helping them acquire basic academic skills through remedial classes, which typically do not address issues such as study skills, goal setting and the like (Zeidenberg, et al., 2007). Karp (2011) believed there were four main mechanisms by which non-academic supports can improve student success at two-year colleges. They are: creating social relationships, clarifying aspirations and enhancing commitment, developing college know-how and making college life feasible (Karp, 2011). Gardener and Barefoot (2010) also attribute student success to being active on campus, as well as other student skills, such as time management, critical thinking, effective reading and writing skills and test-taking skills.

Purpose and Objectives

The purpose of this study was to determine if two year agricultural college students perceived themselves to be competent in skills necessary to be successful in college. By collecting data regarding the participating students' perceived importance and competency in a set of skills, this study sought to:

1. Determine what skills students in agriculture degree programs perceive as important to be successful in college
2. Determine skills students in agriculture degree programs perceive they are competent in
3. Determine what skill sets do students in agriculture degree programs need the most training in to be successful in college

Material and Methods

An attempt was made to collect data from all of the approximately 100 students in an agricultural major at a two year agricultural college who were attending courses during the summer term of 2011. Participants were given a questionnaire modeled after the Minnesota Beginning Agricultural Education Teacher In-service Programming Needs Assessment (Joerger, 2002), which included questions about demographic information, as well as a list of 114 skills deemed important for college success by Gardner and Barefoot (2010). For each skill listed, students were asked to indicate their perceived level of importance and their perceived level of competence. The Likert-type scale ranged from Not Important (1) to Very Important (5) and Not Competent (1) to Very Competent (5).

The questionnaire was developed using subject matter from each chapter of Gardner and Barefoot's (2010) Step by Step to College and Career Success textbook, which is used for freshman seminar courses taught at the two year agricultural college. Before being administered to participants, the questionnaire was reviewed by members of the two year college Institutional Research Board and by faculty members at a state land grant university. The researcher modified the instrument based on recommendations from these two groups before distributing the questionnaire.

The instrument was administered over a two-week period to 70 students in six different agricultural courses being taught during the summer 2011 term at the two year agricultural college. The courses ranged from 1000-level to 3000-level courses and included topics in business, forestry, mechanics and plant science. Completed instruments were collected from all 70 participants. Due to the fact that the questionnaire for this study was given during the summer term, only a small percentage (~7%) of all agriculture students enrolled at the two

Table 1. Mean and Standard Deviation for Highest Ranked Skills based on Perceived Importance

Skill	Mean	SD
Managing your finances	4.87	0.41
Knowing how to perform well in an interview	4.81	0.39
Selecting a major you feel passionate about	4.81	0.46
Knowing how to avoid contracting a sexually transmitted infection	4.80	0.44
Using class notes to prepare for an exam	4.79	0.45
Reading exam questions carefully	4.76	0.52
Knowing how to prepare a strong résumé	4.71	0.54
Understanding how to write an effective cover letter to accompany your résumé	4.70	0.49
Creating a workable class schedule	4.69	0.55
Understanding the consequences of abusing legal and illegal drugs	4.69	0.69
Considering which careers match your abilities	4.69	0.50
Practicing academic honesty	4.67	0.74
Knowing when to use formal vs. informal English in email communication	4.66	0.59
Editing writing assignments before submitting them	4.64	0.66
Finding the entry requirements for the major that interests you	4.64	0.59
Setting long-term goals	4.63	0.59
Being in class on time	4.63	0.54
Having a good idea of the skills you'll need to succeed in any career	4.63	0.57
Organizing information to be presented in your speech	4.61	0.60
Knowing what it takes to be a good friend	4.61	0.57

Note. 1 = Not important; 2 = Of little importance; 3 = Somewhat important; 4 = Important; 5 = Very important.

Table 2 Mean and Standard Deviation for Highest Ranked Skills based on Perceived Competency

Skill	Mean	SD
Selecting a major you feel passionate about	4.69	0.65
Knowing how to avoid contracting a sexually transmitted infection	4.66	0.70
Avoiding tobacco products, even in moderation	4.57	0.89
Practicing academic honesty	4.53	0.78
Knowing what it takes to be a good friend	4.51	0.79
Considering which careers match your abilities	4.41	0.73
Having a set of values that genuinely makes sense to you	4.40	0.86
Understanding how to maintain good communication with your family while in college	4.34	0.87
Reading exam questions carefully	4.33	0.86
Knowing when to use formal vs. informal English in email communication	4.31	0.81
Having a good idea of the skills you'll need to succeed in any career	4.31	0.77
Knowing the difference between responsible and irresponsible alcohol use	4.30	1.04
Being in class on time	4.29	0.84
Knowing what to do if you ever find yourself in an abusive relationship	4.27	1.19
Knowing what to do when some aspect of a friend's behavior clashes with your personal values	4.27	0.80
Knowing how to perform well in an interview	4.27	0.82
Managing your finances	4.24	0.84
Choosing effective visual aids for your speech	4.24	0.81
Creating a workable class schedule	4.21	0.90

Note. 1 = Not competent; 2 = Little competence; 3 = Somewhat competent; 4 = Competent; 5 = Very competent.

year agricultural college were present on campus to participate in the study.

The data was entered into and analyzed using functions of an Excel™ spreadsheet. Cronbach's α for this study was calculated to be 0.97. Formulas based on the specifications of the Borich Needs Assessment Model (Borich, 1980) were created for determining the prioritization of the skill deficiencies. Joerger (2002) described Borich's procedure: A discrepancy score was initially calculated for each student for each competency by subtracting the competency score from the importance score. A weighted discrepancy score was then calculated by multiplying the discrepancy score by the mean importance rating for each competency. A mean weighted discrepancy score (MWDS) was calculated by taking the sum of the weighted discrepancy scores and dividing by the number of complete participant responses for the competency (p. 13).

Results and Discussion

Of the 70 responding students, 39% (27) were pursuing a degree in Diversified Agriculture, 24% (17) in Wildlife, 21% (15) in Forestry and the remaining 16% in other agricultural areas. The majority of respondents (73%) were male and the average age of respondents was 22.5 years (SD=4.1). Data regarding race was not collected as part of this study.

Table 3. Most Needed Skills Based on Mean Weighted Discrepancy Score

Skill	MWDS
Eliminating distractions from your study environment	4.75
Getting enough sleep	4.68
Dealing with stress in a healthy way	4.46
Raising your hand when you don't understand something	4.08
Concentrating while reading a text	3.99
Beginning to study for an exam at least a week in advance	3.85
Reviewing what was said in your class after the class is over	3.71
Not overextending yourself	3.54
Using relaxation techniques to combat stress	3.37
Reciting key ideas to yourself after reading	3.35
Feeling comfortable asking all types of questions	3.29
Speaking up in class	3.23
Using a dictionary to check the meaning of unfamiliar words while reading	3.15
Making your physical health a priority	3.08
Managing your finances	3.06
Precise communication: presenting your ideas convincingly to others	3.05
Exercising regularly	3.03
Taking notes on the class discussion, not just the lecture	3.03
Setting long-term goals	2.98
Knowing how to prepare a strong résumé	2.96

Objective 1 of this study asked, What skills do students in agriculture degree programs perceive as important to be successful in college? Based on the data analyzed from the questionnaire, the participating students ranked "managing your finances" as the most important skill to be successful in college, with a 4.87 mean on a 1-5 scale. Tied for the second most important

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skill was “knowing how to perform well in an interview” and “selecting a major you feel passionate about,” with a 4.81 mean on a 1-5 scale. Table 1 represents the 20 skills with the highest rank based on students’ perceived important to be successful in college.

Objective 2 of this study asked, “*What skills do students in agriculture degree programs perceive they are competent in?*” Based on the data analyzed from the questionnaire, the participating students ranked Selecting a major you feel passionate about as skill they were most competent in, with a 4.69 mean on a 1-5 scale. The skill students perceived themselves to be the second most competent in was Knowing how to avoid contracting a sexually transmitted infection, with a 4.66 mean on a 1-5 scale. Table 2 represents the twenty skills with the highest rank based on students’ perceived competency.

Objective 3 of this study asked, “*What skill sets do students in agriculture degree programs need the most training in to be successful in college?*” Based on Borich’s Mean Weighted Discrepancy Score (MWDS), the skill that students indicated needing the most training in was “eliminating distractions from your study environment,” with a MWDS of 4.75. The second most needed skill according to the data was “getting enough sleep,” with a MWDS of 4.68. Table 3 represents the twenty skills in which students perceive needing the most assistance with, based on Mean Weighted Discrepancy Scores.

Summary

Based on the data analyzed from the questionnaire, the participating students ranked “managing your finances” as the most important skill to be successful in college, with a 4.87 mean on a 1-5 scale. Tied for the second most important skill were “knowing how to perform well in an interview” and “selecting a major you feel passionate about,” with a 4.81 mean on a 1-5 scale.

Based on the data analyzed from the questionnaire, the participating students ranked “selecting a major you feel passionate about” as the skill they were most competent in, with a 4.69 mean on a 1-5 scale. The skill students perceived themselves to be the second most competent in was “knowing how to avoid contracting a sexually transmitted infection,” with a 4.66 mean on a 1-5 scale.

Based on Borich’s Mean Weighted Discrepancy Score (MWDS), the skill that students indicated needing the most training in was “eliminating distractions from your study environment,” with a MWDS of 4.75. The second most needed skill according to the data was “getting enough sleep,” with a MWDS of 4.68.

Recommendations

The data implies two year agricultural college students believe managing their finances is the most important thing they can do to ensure their college success. With the current economic status of our nation and the ever-increasing cost of tuition and fees it is no surprise that financial management is on the top of their list. Unfortunately, many students do not come to college possessing adequate money management skills, partially because the subject is not required to be taught in the state’s high schools. The subject of financial management is covered somewhat in two year agricultural college’s freshman seminar courses, but not all students take the course and it is up to the instructor as to what and how much, if any, of the subject is taught. The researcher recommends implementing a standardized financial management component to all two year agricultural college freshman seminar courses.

Based on the weighted scores of this study, two year agricultural college students would like the most help with eliminating distractions from their study environment. Further research could be done to determine which distractions in particular are affecting the students’ study time. This information could help two year agricultural college staff to know what can be done to assist students with this issue.

Implications for Future Research

The questionnaire for this study was given during the summer term of 2011, which means only a small percentage (~7%) of all agriculture students enrolled at two year agricultural college were present on campus to participate in the study. The questionnaire should be re-administered during a fall semester in order to capture the most responses. Likewise, the study could be expanded to include students enrolled in all of the schools at the two year agricultural college in addition to the School of Agriculture and Natural Resources.

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