

PROFESSIONAL EDUCATION AND DIFFERENCES BETWEEN GRADUATE CAREER CHOICE

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Although the number of secondary agricultural education teaching positions has declined over the past several years (Camp, 1987), agricultural educators have long been concerned with why graduates choose not to enter the teaching profession.

To date, there has been little research conducted in the profession regarding the possible influence of the following factors upon graduate career choice: (1) grades received in the professional education component of the agricultural education curriculum, (2) certification history, or (3) academic ability.

Cole (1984) concluded that improvements were needed in both the student teaching program and other related coursework in an effort to influence more students to enter the teaching profession after graduation. In a 1975-87 follow-up study, McGhee and Cheek (1989) found that almost 60% of agricultural education graduates in Florida were teaching. Moss and Briers (1982) indicated that student morale accounted for 8.5% of the variance in graduates' decisions to enter the teaching profession.

Hoerner (1965) reported that one reason agricultural education graduates did not enter the teaching profession was that they never had the aspiration to teach. Many such students may decide not to complete the state certification process.

McCoy and Mortensen (1983) pointed out that graduates who enter the agricultural education teaching profession are more academically able. Relatedly, Raven and Warmbrod (1989) reported that agricultural education majors are as academically capable as other majors in terms of both entering and exiting college.

Purpose and Objectives

The purpose of this study was to determine if student academic history in the professional education component of the agricultural education curriculum, cumulative grade point average, and certification history influenced graduates' career choices. The specific objectives were:

1. To describe graduates in terms of cumulative grade point average, grades received in the professional education component of the curriculum, certification status, and career status.
2. To determine the extent to which the following factors might distinguish between graduates who entered the teaching profession and graduates who did not: (1) cumulative grade point average, (2) certification status, (3) grades received in Student Teaching, (4) grades received in selected departmental education courses, and (5) grades received in selected nondepartmental education courses.

Procedures

Population and Sample: The population for this study was all agricultural education graduates enrolled in the preservice program who completed Student Teaching at The Ohio State University between Winter Quarter, 1980 and Winter Quarter, 1986 ($N = 283$). The composition of the sample included 160 graduates purposefully selected upon their degree of coursework taken at The Ohio State University and availability of summative ratings by cooperating teachers. Completed summative evaluations by cooperating teachers could not be located in departmental records for many of the students who were not included in the study. Transfer students who had taken several courses in the professional education component of the curriculum at other universities were also excluded from the study.

Design of the Study: This was a descriptive-correlational study. Discriminant analysis was the chosen multivariate analysis technique. This technique allows a researcher to examine multiple relationships between two or more categorical dependent variables and a number of independent variables (Hair, Anderson, & Tatham, 1987).

Instrumentation and Data Collection: Data were obtained from transcripts and state certification records located in both departmental and college offices.

Data Analysis: Descriptive statistics were used to summarize and analyze the data. Discriminant analysis was used to determine differences between whether or not students entered the teaching profession after graduation and a set of discriminating variables.

Results

Cumulative Grade Point Average: Of the 160 graduates in the sample, cumulative grade point averages ranged from A- (2.4%) to C (15%). As indicated in Table 1, the cumulative grade point average was slightly greater than B- ($X = 2.79$, $SD = .42$).

Table 1
Overall Grade Point Average (n = 160)

Grade	Value	Frequency	Percent
A	4.00	0	0.0
A-	3.70	4	2.4
B+	3.30	18	11.2
B	3.00	26	15.9
B-	2.70	38	24.2
C+	2.30	50	31.3
C	2.00	24	15.0
Total		160	100.0

$X = 2.79$; $SD = .42$

Grades Received in Departmental Education Coursework: Of the 196 quarter hours required for graduation, 43 were required in the professional education component. Students also had the option of including courses associated with the undergirding disciplines of education (Psychology and Sociology) in the Social Sciences area of the general education component of the curriculum. Of the 43 hours in professional education, 28 were required in the department and 15 were required outside of the department.

As indicated in Table 2, graduates received an average letter grade between B+ and A- in coursework taken within the department. Specific numerical averages (based upon a four-point scale) were as follows: (1) Vocational and Extension Education in Agriculture (Introduction to Ag. Ed.): 3.60 ($SD = .39$); (2) Instructional Program Planning for Vocational Agriculture (Program Planning): 3.68 ($SD = .33$); (3) Student Teaching in Agriculture (Student Teaching): 3.42 ($SD = .37$); and (4) Methods in Teaching Vocational Agriculture and Extension Education (Methods): 3.34 ($SD = .44$). Letter grades ranged from C+ to A in Introduction to Ag. Ed. and Program Planning, and from C to A in Methods and Student Teaching.

Grades Received in Nondepartmental Professional Education Coursework: Graduates received lower grades in professional education coursework taken outside of the department. Table 3 indicates that highest numerical averages were received in Professional Introduction II: 3.24 ($SD = .66$) and Philosophy or History of Education (History/Philosophy): 3.08 ($SD = .63$). Letter grade averages for the above-mentioned courses were between B and B+. Grades received in Professional Introduction I were lowest with an average letter grade falling between B- and B ($X = 2.94$, $SD = .78$).

Table 2
Grades Received in Departmental Courses (n = 160)*

Grade	Value	Intro. to Ag Ed		Methods of Teaching Ag		Program Planning		Student Teaching	
		f	%	f	%	f	%	f	%
A	4.00	49	30.6	21	13.1	46	28.8	9	5.6
A-	3.70	52	32.5	45	26.3	86	53.7	19	11.9
B+	3.30	38	23.8	41	25.6	13	8.1	88	55.0
B	3.00	14	8.7	38	23.8	9	5.7	32	20.0
B-	2.70	4	2.5	12	7.5	5	3.1	7	4.4
C+	2.30	3	1.9	5	3.1	1	0.6	3	1.9
C	2.00	-	-	1	0.6	-	-	2	1.2
Total		160	100.0	160	100.0	160	100.0	160	100.0
		X = 3.60 SD = 0.39		X = 3.34 SD = 0.44		X = 3.68 SD = 0.33		X = 3.42 SD = 0.37	

Note: *Introduction to Ag Ed (3 credit hours), Methods (5 credit hours), Program Planning (3 credit hours), Student Teaching (15 credit hours).

Table 3
Grades Received in Nondepartmental Professional Coursework (n = 160)*

Grade	Value	Prof. Intro. to Ed. I		Prof. Intro. to Ed. II		Hist. or Phil. of Ed.	
		f	%	f	%	f	%
A	4.00	23	14.4	34	21.3	20	12.5
A-	3.70	25	15.6	29	18.1	19	11.8
B+	3.30	18	11.3	24	15.0	28	17.5
B	3.00	20	12.5	40	25.0	46	28.8
B-	2.70	29	18.1	7	4.4	21	13.1
C+	2.30	15	9.4	7	4.4	14	8.8
C	2.00	16	10.1	13	8.1	8	5.0
C-	1.70	6	3.7	4	2.5	2	1.3
D+	1.30	5	3.1	1	0.6	1	0.6
D	1.00	3	1.9	1	0.6	1	0.6
Total		160	100.0	160	100.0	160	100.0
		X = 2.94 SD = 0.78		X = 3.24 SD = 0.66		X = 3.08 SD = 0.63	

Note: *Professional Introduction I & II (6 credit hours), Philosophy of Education (3 credit hours), History of Modern Education (3 credit hours).

Certification Status: Of the 160 graduates in this study, 90% completed the necessary coursework and documentation for certification (Table 4).

Teaching Status: Over one-half of the 160 graduates in the study (n = 83) entered the teaching profession (Table 4).

Table 4
Certification and Teaching Status (n = 160)

Certification Status	Number	Percent	Teaching Status	Number	Percent
Certified	144	90	Teaching	83	51.9
Noncertified	16	10	Nonteaching	77	48.1
Total	160	100		160	100.0

Differences Between Teachers and Nonteachers on Selected Variables: For analysis purposes, grades from the following courses were averaged together: (1) departmental professional education courses (Methods, Program Planning, and Introduction to Agricultural Education); (2) nondepartmental professional education courses (Professional Introduction I, II, and History/Philosophy of Education); and (3) Student Teaching (assigned three separate grades for five credit-hours per grade).

Discriminant analysis was utilized to determine if graduates who entered the teaching profession and graduates who did not enter the teaching profession could be distinguished based upon the five discriminating variables in the study. The discriminant function indicated that graduates who entered the teaching profession could be distinguished from graduates who did not by the set of variables included in the analysis (Table 5). The proportion of variance in the discriminant function that was explained by the two groups (teachers and nonteachers) was approximately 16% ($R_c = .399$).

The standardized discriminant function coefficients indicate the relative importance of the discriminating variables (Warmbrod, 1988). The most highly distinguishing attributes of graduates who entered the teaching profession were Student Teaching grade and certification status. Of lesser importance were grades in departmental professional education coursework (other than Student Teaching), nondepartmental professional education coursework, and higher cumulative grade point averages.

Table 5
Discriminant Analysis (n = 160)

Variables	b	s	Group	Centroids
Grade Point Average	-.02	.07	Nonteachers	-.448
Student Teaching	.56	.53	Teachers	.416
Departmental Professional Ed. Coursework	-.06	.01		
Nondepartmental Professional Ed. Coursework	-.09	-.01		
Certification Status	.83	.85		

Eigen value = .189; R_c = .399; Wilks' Lambda = .841

Note: b = standardized discriminant function coefficient, s = within-groups structure coefficient, R_c = canonical correlation coefficient.

Conclusions and Recommendations

Conclusions: Agricultural education graduates maintained a cumulative grade point average of 2.79. This finding is comparable with follow-up research conducted in Florida (Cheek, McGhee, & West, 1983). In terms of the professional education component of the agricultural education curriculum, grades were higher in departmental coursework than in nondepartmental coursework. Ninety percent of the graduates completed the necessary coursework and documentation for state teacher certification. Over one-half of the graduates entered the teaching profession. Over 48%

of Ohio agricultural education graduates elected not to enter the teaching profession. This percentage is somewhat higher than was reported in similar studies conducted by Cole (1984) in Oregon (25%) and by Chizek & Miller (1984) in Iowa (30.2%).

Graduates who entered the teaching profession could be distinguished from graduates who did not by a set of variables relating to cumulative grade point average, grades in Student Teaching, grades in the professional education component of the curriculum (both departmental and nondepartmental), and certification status. The most powerful discriminating variables were certification status and grade in Student Teaching.

Lower grades in Student Teaching might reflect graduates' dissatisfaction with the overall preservice experience. Both Cole (1984) and McCoy and Mortensen (1983) found that graduates who did not teach exhibited less satisfaction with their student teaching experience. Relatedly, Campbell and Williamson (1973) established that the most important factor in determining the success of Student Teaching centered upon the preservice teacher's relationship with the cooperating teacher.

Recommendations: Teacher educators in agriculture should continue to encourage scholarship on the part of preservice students in all coursework, especially in the professional education component of the curriculum. The National Research Council (1988) called upon agricultural educators to increase linkages with colleagues in other educational disciplines.

Encouragement of academic achievement should begin early in the student's program and should continue throughout. It is particularly important that teacher educators point out the necessity for future teachers to be experts not only in technical agriculture but also in the application of teaching and learning principles.

Barrick (1988) warned that an "unexamined discipline may not last" (p. 8). Teacher educators should continue to evaluate and modify departmental course offerings in an effort to spark the enthusiasm of all preservice students.

Subsequent study is warranted to further investigate the impact which the student teaching experience has upon graduate career choice. Only 16% of the variance in graduate career choice was explained by the variables included in this study. Additional research is needed to examine additional program and personal variables which might influence graduate career choice.

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