
Professional Development Needs of Ohio's Community College and Technical Institute Agriculture Instructors

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Abstract

This study was conducted to determine the professional development needs of postsecondary agriculture instructors in Ohio. One hundred and eleven instructors from 7 different institutions were asked to indicate their ability to perform each of 30 instructional and program management skills/techniques and also to rate the importance of each on a mailed questionnaire. The highest needs were improving the assessment of student needs, skills in promoting programs, and use of computers. Other high areas reflected the need for day-to-day instructional and program management activities, particularly in recruiting non-traditional students, scheduling instructional programs, serving special/exceptional needs students, etc.

Introduction

Postsecondary-level vocational educators must not only be experts in their chosen fields but must also be professional presenters of information from their areas of expertise (Denton, 1985). In the 1960s and early 1970s, people preparing to teach in postsecondary-level education programs could generally take up to three years to acquire nine credit hours of education classes. Today, a typical requirement involves taking 9 to 18 credit hours in education and attending vocational seminars or conferences. These requirements are very weak and only a token approach to the professional preparation of postsecondary instructors (Denton).

Improving the quality of instruction in vocational education has relied heavily on teacher education institutions to deliver updating and license requirements courses to in-service secondary and postsecondary vocational instructors (Smith, Allen, & Dreyer, 1982). In fact, administrators of postsecondary technical vocational programs felt that their institutions did not provide assistance in developing a plan for professional development (Lovelace & LaBrecque, 1991). In addition, new vocational teachers in Colorado needed better access to and increased assistance from teacher trainers (Tierney & Krakower, 1986). The important problem of

postsecondary educators is a lack of opportunities to obtain adequate preparation and professional development (Denton, 1985). It is imperative that educators develop proof that postsecondary vocational education will be improved with better teacher education preparation and training (Denton). Postsecondary instructors of agriculture need to maintain or enhance their teaching performance.

There are many forces which drive professionals to seek continuing education: (1) rapidly changing information, (2) new technological developments, (3) mandated credit to maintain license and professional certification, (4) emerging professionals struggling to define their competencies, and (5) development changes in adults that affect career practices (Bennett & LeGrand, 1990). Most instructors, committed to their practice, want to be competent, continue to learn, and practice with the highest standards in their chosen fields.

Review of Professional Development Needs Research

The implementation of professional development activities based on the assessed needs can improve the ability of postsecondary instructors to meet the special needs of their students. The considered judgment of the respondents regarding their perception of their present level and desired level of development is an effective approach for identifying the professional development needs of current faculty of postsecondary technical/vocational education programs (Lovelace & LaBrecque, 1991). Pucel, Sonnak, and Oboh (1992) found that the professional development activities of postsecondary instructors shifted somewhat from the time they entered teaching. That is, beginning instructors took more formal courses in instructional methodology while more experienced instructors took part in non-credit workshops.

Hartley, Brookhart, and Smith (1990) found that there are few regional differences in perceived professional development needs of secondary and postsecondary vocational educators in Colorado. They also found that vocational educators at different levels had similar professional development needs and that the top four methods identified by vocational educators were group, workshops, seminars, on-the-job work experiences, and university courses (Hartley, Brookhart, & Smith, 1990). However, formats most preferred were all day, intensive activities, three hour blocks, and weekends (Hartley,

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Brookhart, & Smith, 1990). Hamilton and McElroy (1983) found that workshops, conferences, and seminars were the most widely used approach to update vocational and technical teachers.

Winter and Fadale (1983) found that one of the highest concerns expressed by postsecondary faculty members, chairpersons, and administrators in New York was teaching methodology along with the concerns of subject matter knowledge. Hartley, Brookhart, and Smith (1990) found that the areas of greatest perceived professional development needs of secondary and postsecondary vocational educators in Colorado were: (1) keeping abreast of new technology, (2) computer managed instruction, (3) computer assisted instruction, (4) motivating students, (5) writing proposals for funding, and (6) developing critical thinking skills. Hamilton and McElroy (1983) found that large numbers of vocational/technical teachers at both the secondary and postsecondary levels were considered to have substantial or critical need for updating in the technology of their teaching fields. Of the occupational areas, one-half of the agricultural instructors showed substantial or critical need for updating in the technology of their teaching fields.

Ingram and Field (1979) determined 99 professional education teacher competencies needed by teachers of postsecondary agriculture technology in Kansas. They also found the seven items with the greatest need for postsecondary teachers of agriculture were: (1) developing a school-community relations plan for their vocational program, (2) evaluating instructional effectiveness, (3) providing instruction for slower and more capable learners, (4) directing programmed instruction, (5) coordinating on the job instruction, (6) preparing displays to promote vocational programs, and (7) projecting instructional resource needs. However, no studies were found that examined the professional development needs of postsecondary (community college and technical institute) agriculture instructors in Ohio.

Purpose and Objectives

The purpose of this study was to determine the professional development needs of Ohio's postsecondary agricultural instructors with regard to instructional and program management skills/techniques. The specific objectives of this study were as follows:

1. To describe the characteristics of Ohio postsecondary agriculture instructors.
2. To describe the perceptions of Ohio postsecondary agriculture instructors related to their ability to perform and the importance of instructional and program management skills/techniques.
3. To determine the most important professional development needs of the Ohio postsecondary agriculture instructors.

Methods

Descriptive survey research, in the form of a census study, was used to obtain data for this study. The population con-

sisted of 111 postsecondary agriculture instructors in seven different institutions. A questionnaire was developed by the researchers with the content validity confirmed by a panel of five experts including postsecondary administrators, teacher educators, and State Department of Education personnel. A test-retest reliability was established with graduate students at the Ohio State University and resulted in a reliability of .87. An initial and one follow-up mailing resulted in a return of 48 questionnaires which represented a response rate of 43.2%. A 10% sample of non-respondents was contacted and their results were not significantly different than the respondents. Therefore, these results can be generalized to all the postsecondary agriculture instructors in Ohio. Data were analyzed using the IBM SPSS/PC+ for the descriptive statistics. Hershkowitz's Criticality Function (Witkin, 1984) was used to prioritize the professional development needs of the Ohio postsecondary agriculture instructors.

Findings

Characteristics of the Ohio Postsecondary Agriculture Instructors

The average age of the respondents was 42. They had spent an average of nearly 10 years teaching in associate degree-granting institutions. Additionally, they had spent over 5 years teaching in another setting and 11 years of related occupational experience. Approximately two thirds (66.7%) of the respondents were male. Nearly 84% of the respondents had completed a Master's degree. About 8% of the respondents had not completed a 4-year college program. The three most commonly reported program areas were agricultural business (16.7%), animal science (14.6%), and horticulture (12.5%). Approximately 15% of the respondents failed to report the type of program in which they taught. The largest number of respondents were employed in a technical college (52.6%) and located in the northeast region of the state (37.5%).

Instructional and Program Management Skills/Techniques

For each of the 30 instructional and program management skills/techniques, the respondents were asked (a) to indicate their ability to perform them and (b) to rate the importance of these skills/techniques. The mean response and standard deviation for each of these ratings are represented in Table 1. On a 4-point scale, the respondents' mean ability to perform the instruction and program skills/techniques was 2.89 (good). The instructional and program management skills/techniques which the respondents rated their ability below average included: use satellite instruction (1.60), use video-disc (1.68), use computer/electronic management information (2.46), recruit non-traditional students (2.57), serve special/exceptional needs students (2.60), use computers (2.70), diagnose/assess student needs (2.81), and promote programs (2.85).

The respondents' average perception of the importance of these instructional and program management skills/tech-

Table 1 Perception of Ohio's Postsecondary Technical Agricultural Instructors Ability to Perform and Importance of Instructional and Program Management Skills/Techniques

No.	Skills/Techniques	Ability		Importance	
		Mean	SD	Mean	SD
1.	Advise Student Organizations	3.02	.75	2.96	.76
2.	Articulate Programs with Business and Industry	3.04	.74	3.35	.67
3.	Articulate Programs with Schools/Colleges	2.96	.69	3.23	.73
4.	Assist Students with Developing Basic Skills	3.26	.65	3.75	.44
5.	Coordinate Cooperative/Experiential Education	2.94	.90	3.39	.66
6.	Develop Business/Community Relations	3.13	.73	3.33	.66
7.	Develop Instructional Materials	3.21	.69	3.53	.62
8.	Develop Professional Roles	2.96	.60	3.53	.62
9.	Diagnose/Assess Student Needs	2.81	.83	3.49	.62
10.	Evaluate Instruction	3.11	.80	3.50	.59
11.	Evaluate Programs	3.20	.65	3.40	.65
12.	Manage Classrooms	3.33	.69	3.58	.58
13.	Manage Laboratories	3.26	.83	3.47	.69
14.	Plan Instruction	3.42	.65	3.65	.48
15.	Plan Programs	3.20	.69	3.50	.55
16.	Promote Programs	2.85	.79	3.46	.55
17.	Provide Student Guidance	3.07	.85	3.55	.59
18.	Recruit Non-Traditional Students	2.57	.98	2.96	.87
19.	Recruit Students	2.91	.76	3.35	.85
20.	Schedule Instructional Programs	2.73	.84	2.96	.81
21.	Serve Special/Exceptional Needs Students	2.60	.90	3.12	.61
22.	Teach Adult Students	3.38	.64	3.35	.64
23.	Teach Minority Students	3.15	.78	3.36	.64
24.	Use Computer/Electronic Marketing Information	2.46	.98	3.00	.70
25.	Use Different Teaching Methods	3.21	.77	3.62	.53
26.	Use Camcorder	2.32	1.05	2.53	.83
27.	Use Computers	2.70	.95	3.36	.57
28.	Use VCR	3.28	.74	3.08	.77
29.	Use Video-Disc	1.68	.84	2.37	.95
30.	Use Satellite Instruction	1.60	.85	2.35	.84

Scale: 1=Poor, 2=Fair, 3=Good, and 4=Excellent for the Ability to Perform the Skill; 1=Extremely Unimportant, 2=Unimportant, 3=Important, and 4=Extremely Important for the Importance of the Skill.

niques was 3.28 (important). Those skills and techniques rated as above average in importance were: assist students with developing basic skills (3.74), plan instructions (3.65), use different teaching methods (3.62), manage classrooms (3.58), provide student guidance (3.55), develop instructional materials (3.53), plan programs (3.50), evaluate instruction (3.50), diagnose/assess student needs (3.49), promote programs (3.46), coordinate cooperative/experiential education (3.39), teach minority students (3.36), use computers (3.36), recruit students (3.35), articulate programs with business and industry (3.35), serve special/exceptional needs students (3.12), and use computer/electronic management information (3.00).

Prioritizing Professional Development Needs

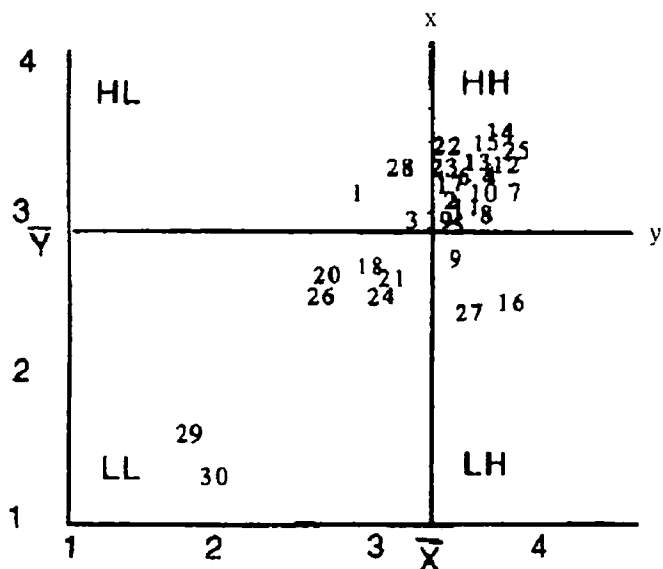
Hershkowitz's criticality function (Witkin, 1984) was used to determine those skills/techniques with the highest priority for offering staff development programs. In this process the mean scores for each of the two ratings reported in the previous section (ability = 2.89 and importance = 3.28) were used to divide the scales into two groups (high and low). These values were then plotted on separate axes (X and Y) and the graph was then divided into four quadrants: HH = high ability-high importance, HL = high ability-low importance, LL = low ability-low importance, and LH = low ability-high importance. The results of the criticality function are presented in Figure 1. In this rating, the skills/techniques rated as being of low ability and high importance (LH) were given the highest priority for Ohio's postsecondary technical agriculture instructors: diagnose/assess student needs, promote programs, and use computers. Those skills/techniques in the LL quadrant were given the next highest priority for staff professional development: recruit non-traditional students, schedule instructional programs, serve special/exceptional needs students, use computer/electronic marketing information, use camcorder, use video-disc, and use satellite instruction. Those skills/techniques in the HH quadrant should be monitored in order to maintain excellence and those in the HL quadrant should be examined to determine instructional and

program management skills/techniques that do not need to be improved.

Conclusions and Recommendations

The highest needs of Ohio's postsecondary agriculture teachers were in line with the major issues facing educational programs throughout the country. First, the issue of accountability and better serving the needs of students was reflected in their perceived high need to improve in the assessment of student needs. Second, the increased competition for students was reflected in their need to improve their skills in promoting programs. Finally, the increasing emphasis on computer literacy was reflected in their high need for staff development related to using computers. The providers of instructional

Figure 1. Completed Critical Function (Scatter Plot) Displaying the Level of Professional Development Needs for Ohio's Postsecondary Agriculture Instructors



x = mean skills importance (3.28)
y = mean skill ability (2.89)

and program management staff development programs should relate their instruction to these major educational issues and concerns.

The skills/techniques rated as having the second highest need reflected day-to-day instructional and program management activities conducted by the teachers. These included the skills related to recruiting, scheduling, serving special needs students, and improving the teaching of their students. Staff development activities should be provided based on these concerns of Ohio's postsecondary agriculture teachers.

The teachers rated themselves as being competent in the important instructional and program management skills/techniques related to their functional responsibilities as an instructor. These skills were related to the planning, implementation, and evaluation of instruction. The functional skills/techniques related to program management should not be included in staff development programs. However, the skill levels in these areas should be monitored to ensure that excellence in these areas does not diminish.

The skills/techniques that the teachers did not perceive to be important for their staff development were related to those topics that they perceived to have done for some time. These skills/techniques included advising student organizations, relating to other schools/colleges, and using video-camera recorders (VCRs). These skills/techniques that Ohio's

postsecondary agriculture teachers have performed, and in which they have high levels of ability, should not be included as a priority in staff development programs.

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