Teaching Methods

Career Advancement Comparison Between Ornamental Horticulture Associate Degree and Nondegree Programs

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SUMMARY. This study was conducted to determine if there is a difference between the career advancement of alumni of ornamental horticulture associate (terminal) degree and nondegree programs. A survey of the alumni of three associate degree and three nondegree training programs

was administered, using guidelines from career advancement validation research conducted at Alverno College, Milwaukee, Wis. (Ben-Ur and Rogers, 1994). Six programs were selected from North Carolina, Maine, Ohio, and southeastern Canada, including parts of Ontario and Quebec and all of New Brunswick and Nova Scotia. The programs were selected because of their perceived high reputations, as based on a survey sent to eight selected Longwood Gardens staff (Kennett Square, Pa.) and six professors in the Plant and Soils Science Department at the University of Delaware (Newark). Survey respondents were initially chosen based on their knowledge of the field of horticulture and of ornamental horticulture educational programs. The statistical analysis of the data did not support the presupposition that there would be a significant difference between the career advancement in favor of graduates from horticultural associate degree programs.

The impetus for this study evolved from an early interest in modifying the Longwood Gardens Professional Gardener Training Program (PGTP) from a diploma-granting program (nondegree) to an associate degree program. In an empirical sense, selected PGTP staff and students did not favor this proposed change, believing it would diminish the perceived prestige of the program. They contended that PGTP graduates were outperforming associate, and possibly bachelors degree graduates. This researcher thought the reverse would be true, because of earlier experience as an adjunct professor at a community college. The research revealed that the real issue at hand was

career advancement. The historical work of Pascarella and Terenzini (1991) revealed that students attending 2-year junior colleges were less likely to complete a bachelors degree than those students attending a 4-year college. They also found that achievement of a bachelors degree was linked to higher career advancement for those attending a 4-year college and completing a bachelors degree. Thus, this researcher hypothesized that since the nondegree programs in the study are at nonacademic institutions, and conferred a diploma (as opposed to a degree) they were even less likely to achieve a bachelors degree. They would therefore have the lowest career advancement.

Institutions can have an impact on the advancement of their alumni by developing their cognitive and noncognitive skills, by credentializing them, and by screening candidates for prospective employers. These factors may work together or individually to distinguish associate degree program alumni from nondegree training program alumni. It is recognized that the cognitive (e.g., oral and written skills, abstract and critical thought processes) and noncognitive (e.g., values, personality, behavior patterns) can only be partially credited to an institution since other life experiences also influence these factors. In contrast the credentialization and screening of students can be more directly correlated to a given institution. This is to assume, in essence, that educational institutions are given a "charter or commission by the larger society" to sort out individuals (Pascarella and Terenzini, 1991). This indicates that some of the benefit of graduating with a higher degree, or with a degree from a certain school may be directly tied to the perception of that degree or school. This benefit is separate from the cognitive and/or noncognitive growth that may have occurred.

Accreditation agencies have recently begun to recommend the use of outcome assessment information as a part of the accreditation process. An outcome has been defined as "the condition of the student at some subsequent point in time after exposure to the educational environment" (American Association for Higher Education, 1994). Career advancement obviously fits into this definition. Following the lead of the accrediting agencies, aca-

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Fig. 1. Highest career position before entering horticulture program no more than 10 years postgraduation. ²X-axis notation is as follows. A = performs duties and participates in horticultural activities under close supervision, according to specific instruction (e.g., park worker, landscape laborer). B = applies horticultural knowledge while performing activities as directed by supervisory personnel (e.g., garden worker, tree pruner). C = supervises and coordinates horticultural activities of oneself and/or others (e.g., horticultural supervisor, tree surgeon). D = plans, directs, and coordinates horticultural activities through subordinate supervisory personnel according to executive directives (e.g., head of horticulture, manager). E = administers affairs of horticultural institution or company (e.g., director, president, owner). N = nonhorticultural position, or no position.

demic institutions are moving toward outcome assessment, specifically career advancement studies. The career advancement potential for programs can be of special interest to potential students choosing an academic program. No other research was found which compares career advancement between nondegree training programs and associate degree programs in horticulture, or in other fields.

Materials and methods

The programs chosen for study were located in the north and central regions of the eastern United States and southeastern Canada and were selected based on a survey which ranked their perceived prestige. This was done to limit the effects of the credentialization and screening effects. The associate programs selected were located at Sandhills Community College (Pinehurst, N.C.), the Ohio State University (Wooster, Ohio), and the State University of New York at Cobleskill Agricultural and Technical College (Cobleskill, N.Y.). The three

nondegree programs selected were the Professional Gardener Training Program at Longwood Gardens (Kennett Square, Pa.), the Niagara Parks Commission School of Horticulture (Canada), and the New York Botanical Garden School of Horticulture (New York, N.Y.). These associate programs and Longwood's program require 2 years of full-time study to complete. Niagara's program requires 3 years, and New York Botanical Garden's is 21 months. All the associate programs require standard entrance exams (e.g., Scholastic Aptitude Test) which are not required for admission to the nondegree programs. However, the nondegree programs require letters of recommendation and a personal interview. Except for the group orientation and interview at Sandhills, the associate programs have no interview or letter of recommendation requirements. From these six programs, 1,604 surveys were mailed to associate program alumni who graduated from 1985 to 1995; 28.55% was returned. Surveys (280) were mailed to nondegree training program graduates from the same alumni years; 41.43% was returned.

Our survey was based on the Alverno Alumna Career Level Classification (AACLC) scheme (Ben-Ur and

Rogers, 1994). The primary emphases of the questions were to determine level of responsibilities, autonomy and abilities inherent to positions held by alumni. These factors directly reflect advancement according to the AACLC scheme. Secondary emphasis was placed on salary, budget control, supervisory level and employment continuity, since these factors either indirectly reflect career advancement or indirectly influence career advancement. A quantitative experimental design was used to test the null hypothesis that there would not be a significant difference in favor of associate degree programs. Chi-square and *t* test analysis examined the data collected from the advancement survey.

Results and discussion

No significant differences were found in the primary or secondary emphases questions at $\alpha = 0.01$. The results did not support the presupposition that career advancement favored associate degree programs over nondegree programs. No differences were found in the autonomy of the graduates, level of responsibilities and abilities inherent to the positions held. There were also no differences found in the salaries, size of budget controlled, supervisory levels, or employment continuity between the two groups. However, there were differences found in the career level and the level of schooling before entering the programs. The career levels were higher for the nondegree program entrants (Fig. 1).

It is possible that the nondegree graduates could have a career advancement advantage because of their higher career levels before entering the program. The level of schooling before

Fig. 2. Level of education before entering horticulture program.

entering programs was also an advantage in the nondegree programs. Specifically, the nondegree program graduates had more individuals with bachelors degrees before entering the program (Fig. 2). These bachelors degrees were in fields unrelated to horticulture, allied sciences, or business, yet they could still have a positive impact on career advancement.

The data did not support our presupposition because the major factors that could distinguish the two groups were statistically equivalent. Assuming that associate degree and nondegree programs provide equivalent cognitive development specific to the ornamental horticulture career field, then both alumni groups would likely have developed equivalent cognitive and noncognitive growth, primarily by finishing any bachelors degree program. If this were the case, the effects of institutional hierarchy and the development of cognitive and noncognitive skills would be negated. Likewise it is very possible that the credentialization effects were also negated due to the perceived high reputation of the programs. Although the admission screening processes differ for both types of programs (standardized tests versus interviews and letters of recommendation) both are valuable and respected tools for selecting potential candidates. Of the major factors that could distinguish the two groups, it is our opinion that the credentialization and screening effect is the most important. Advancement was found to be the same regardless of program and it is possible that both types of programs are perceived by employers as equivalent. The selection of the programs based on their reputation could have been a negating factor on the effect of credentialization on graduates. It would also be necessary

then to assume that employers do not perceive the content of the two types of differently, an assumption based on a lack of the contrary. Such information would be valuable to discern from further studies.

The equivalence in credentialization and screening could overcome minor discrepancies that may occur in cognitive and noncognitive development. Cognitive and noncognitive skills not only develop in an academic setting, but also in the workplace. Through credentialization, alumni are placed in positions for which employers perceive they are qualified based on the institution with which they are affiliated. Any discrepancies between the perceived skills and the actual skills would disappear as the graduate continues to grow into the position. Barring any major differences between the skills perceived and those truly present, the most important factor is being offered and succeeding in a challenging position and continuing to grow. It is through this growth and development that careers can advance. Credentialization and screening opens the door to the opportunities that the graduates need for continued growth, and career advancement.

Literature cited

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