Nursery Industry Perceptions of Knowledge Needs for Beginning Managers

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Abstract

As the nursery industry shifts from a production orientation to a market orientation, the manner in which programs in higher education prepare students must also shift. Although agricultural, business, and general education courses are typically included in the undergraduate experience, obtaining industry input in the curriculum is a beneficial exercise. The purpose of this study was to determine the nursery industry's perception of selected knowledge areas outside of the horticultural sciences. In addition, preferred background characteristics for beginning managers in the industry were identified. The findings revealed that starting employees should have some college but not necessarily a baccalaureate degree. In addition, substantial field experience in the industry was preferred. Interpersonal knowledge areas (communication, leadership, personnel management, and organizational planning) were more highly valued than business and marketing, computer, and general education. The study concludes with suggestions for the inclusion of interpersonal knowledge areas in the curriculum.

Introduction

The nursery industry is in a period of transition from a production orientation to a market orientation (Garber & Bondari, 1992). Representing the seventh largest agriculturally-related industry in this country, this industry typically consists of a large number of small and medium sized firms (Hodges & Haydu, 1992). These firms have had historical concerns with lower labor productivity. In an article published by the *Southern Nursery Digest*, John Woeste, Dean of Extension at the University of Florida (Staff, 1992) predicted that nursery businesses of tomorrow must employ competent business managers in order to survive future market demands.

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In 1994, Khatamian and Stevens reported that consumers of landscape/nursery plants identified an educated, professional sales staff as being very important to them when making purchasing decisions. Although graduate follow-up studies have revealed that horticultural graduates are generally pleased with current programs (Wrye & Terry, 1993; Long, Straquadine, & Campbell, 1992), horticulture knowledge alone is not necessarily adequate in preparing for future employment in the industry (Marciel, 1994).

A number of non-technical competencies have been identified as being important to the success of the college graduate. Radhakrishna and Bruening (1994) revealed that employees and students valued interpersonal skills, business and economic skills, and communication skills. Long et al., (1992) indicated that graduates value knowledge in the computer sciences and oral and written communications. Marciel (1994) reported that nursery employers should look for communication skills, attendance, and appearance when hiring new employees. In addition, a number of scholars have advocated the need for practical work experience (McConnell & Yeager, 1990; Merritt & Hamm, 1994).

Purpose and Objectives

The purpose of this study was to determine the essential knowledge areas for students entering the nursery industry as perceived by representatives currently employed in the industry. Specific objectives of the study were to:

1) describe the preferred background characteristics of nursery industry employees; and
2) determine the supportive course knowledge areas essential for managerial employees entering the nursery industry.

Procedures

The target population for this descriptive study consisted of 862 members of the California Association of Nurserymen (CAN) based upon a population frame supplied to the researchers by CAN. The researchers carefully purged the list of duplicated names to control for selection error.

A random sample of 270 members was selected to participate in the study following procedures suggested by Krejcie and Morgan (1970). This sample size resulted in a margin of

error of five percent. The members in the sample represented every geographical region of the state.

A mail questionnaire was developed with the procedures suggested by Dillman (1978). The instrument was initially reviewed by the CAN Education and Career Committee for content and face validity. It was then revised based upon the Committee's recommendations and field tested on a subsample of the population consisting of 40 CAN members not included in the sample of 270, for the purpose of establishing the reliability of the instrument. This resulted in a Cronbach's alpha reliability coefficient of r = .80 or greater for each of the content areas included in the instrument.

The instrument (including a cover letter and a self-addressed stamped envelope) was mailed to the sample of 270 members for data collection in Fall, 1993. Approximately two weeks later, another copy of the instrument was mailed to nonrespondents. The two mailings resulted in a response rate of 42%.

For the purpose of controlling nonresponse error, a statistical comparison was made between responses received after the initial mailing and responses received after the final mailing. No statistically significant differences were found between the two groups. As a result (based upon a procedure forwarded by Miller and Smith, 1983), the researchers concluded with confidence that the data were representative of the entire sample of 270 members. The data were analyzed using the SPSS/PC+ statistical software program.

Findings

The results will be presented in the following two sections. Initially, a summary of the respondents' perceptions of preferred backgrounds for employees will be presented. Second, support course knowledge areas essential for the success of beginning employees will be summarized.

Preferred Backgrounds of Employees

When asked the preferred background for managerial level employees, 66% indicated that a beginning managerial level employee should have some community college level course work or a community college degree. Over one-quarter of the respondents felt that managerial level employees should hold a baccalaureate degree. The beginning managerial level employee was expected to have an average of 2588 hours of field experience (sd = 2606.60). The required experience ranged from no experience at all to 10,400 hours of experience. This same employee would receive an annual salary of $24,000 (sd = 6845.13), with a low of $14,000 to a high of $55,000.

Two Likert-type questions were included regarding the importance of participation in extracurricular activities and professional certifications. The respondents indicated that participation in extracurricular activities by potential employees was of below average importance (x = 2.22, sd = 0.91) based upon a four point Likert-type scale (1 = not important, 4 = extremely important). They also reported that professional certifications were equally as important as formal education for beginning employees (x = 1.95, sd = 0.63) based upon a three- point Likert-type scale (1 = not as important, 3 = more important).

Essential Support Course Knowledge Areas for Beginning Employees

Five constructs (groups of similar knowledge areas) were included in the questionnaire regarding beginning employees (Table 1). The respondents were asked to respond to specific knowledge areas in each construct regarding their perceptions of the importance of each area. A four point Likert-type scale was used in measuring responses.

The construct of interpersonal skills consisted of seven knowledge areas. All but one of the knowledge areas (bilingual competencies) were viewed as being extremely important. The most important knowledge areas for managerial level employees were (1) ability to communicate (verbal and written) (x = 3.75, sd = 0.52); (2) leadership skills and techniques (x = 3.72, sd = 0.55); (3) personnel management (x = 3.71, sd = 0.53); and (4) ability to perform organizational planning (x = 3.68, sd = 0.56).

There were five knowledge areas that represented the construct of marketing and consumer information skills. All of the knowledge areas were valued as being of above average importance for beginning managers. Identified as being most important were: (1) knowledge of marketing concepts (x = 3.49, sd = 0.65); (2) ability to forecast economic, business, and horticultural trends (x = 3.39, sd = 0.67); and (3) ability to educate consumers in horticultural practices/techniques (x = 3.36, sd = 0.81).

Accounting principles and financial planning were the business skills examined in the study. Both financial planning (x = 3.38, sd = 0.75) and accounting principles (x = 3.36, sd = 0.74) were perceived as being of above average importance. The construct of computer related skills consisted of two knowledge areas. Both knowledge areas were thought to be of above average importance for beginning managers. Computer applications (x = 3.13, sd = 0.80) were more highly valued than computer assisted design (x = 2.80, sd = 0.93).

Five broad knowledge areas made up the construct of general education. All knowledge areas with the exception of liberal arts were viewed as being of above average importance for managerial level employees. In terms of importance, the following were identified as being equally important: (1) basic sciences (x = 2.80, sd = 0.76); (2) advanced plant science (x = 2.80, sd = 0.90); and (3) mathematics (2.80, sd = 0.79).

Conclusions and Recommendations

Because this study focused on a limited population, the researchers would caution against the generalization of these findings beyond CAN members. Two-thirds of the respondents perceived that the preparation of entry level managers should take place in the community college system. The entry level manager was expected to have over 2500 hours of field experience in the industry. This same employee would receive an

Table 1 Means, Standard Deviations, and Rankings for Supportive Curricular Areas (n = 113)*

Item	*Mean*	*SD*	*Rank*
Interpersonal Skills			
Ability to communicate (verbal & written)	3.75	0.52	1
Leadership skills & techniques	3.72	0.55	2
Personnel management	3.71	0.53	3
Organizational planning	3.68	0.56	4
Conflict resolution	3.66	0.62	5
Application of problem solving	3.63	0.62	6
Bilingual competencies	2.85	0.91	7
Marketing and Consumer Education			
Marketing concepts	3.49	0.65	1
Forecast trends	3.39	0.67	2
Education consumers of hort. practices	3.36	0.81	3
Multicultural understanding	2.97	0.82	4
Identify market opportunities abroad	2.53	0.81	5
Business Skills			
Financial Planning	3.38	0.75	1
Accounting principles	3.36	0.74	2
Computer Related Skills			
Basic computer applications	3.13	0.80	1
Computer assisted design	2.80	0.93	2
General Education			
Basic sciences (biology & chemistry)	2.80	0.76	1
Mathematics	2.80	0.79	1
Advanced plant sciences (physiology & pathology)	2.80	0.90	1
Social sciences (psycology & sociology)	2.60	0.83	4
Liberal arts	2.50	0.83	5

* Based upon a four point, Likert-type scale where = 1 not important, 2 = below average importance, 3 = above average importance, and 4 = extremely important.

annual beginning salary of $24,000. Once again, there was a great deal of heterogeneity among the respondents regarding expected field experience and beginning salary.

The respondents seemed to send a mixed message in relation to leadership development. When asked about the importance of extracurricular activities while in college, over 50% indicated that participation was not highly valued. However, when asked to appraise leadership skills and techniques, they perceived that this knowledge area was extremely important. In fact, the entire construct of interpersonal skills was more highly valued than the other constructs included in the questionnaire. One plausible explanation may be that since about 90% of the respondents continued their education past high school, they may have themselves participated in extracurricular activities. Such participation may not have met their expectations in terms of leadership development.

Participation in extracurricular activities is not the only way that students obtain leadership skills and abilities. Many campuses have developed specific courses in leadership development. Also, students participating in internships often have the opportunity to broaden their repertoire of leadership skills. Finally, many instructors do an excellent job of encouraging leadership development as part of course experiences in technical courses. Having students make group presentations, give speeches, and introduce guest speakers can also enhance leadership development.

Other interpersonal skills identified as being extremely important were written and oral communication, conflict resolution, problem solving, organizational planning, and personnel management. Colleges of Agriculture should give high priority to the development of these interpersonal areas. Many colleges have developed their own courses in communications and leadership development.

The respondents strongly supported professional certifications. Certifications are often very skill oriented, as compared to resident instruction which often is more broadly designed to not only teach skills, but to enhance critical thinking and problem solving abilities of students. Although degree related credit courses in higher education should not be designed specifically to prepare students to master professional certification exams, this interest in professional certifications by the industry offers a unique opportunity for institutions of higher education to sponsor non-credit professional development workshops that prepare industry representatives for professional certification exams.

Although the essential knowledge areas identified in this study provide excellent baseline information which can be utilized in the curriculum development and review processes, the authors believe that some degree of caution should be used in an effort not to overgeneralize the findings. Readers need to keep in mind that the study results were averaged without regard to type of business or location in the state. The accuracy of these findings would certainly be enhanced if small focus groups of industry representatives were used in validating the findings.

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BOOK REVIEWS

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John W. Barrett, Editor. *Regional Silviculture of the United States, Third Edition.* John Wiley & Sons, Inc. Publishers. 1995. 643 pp. Clothbound $79.95.

This is the Third Edition of this general reference book. It contains 12 chapters written by 13 different authors and co-authors and covers silvicultural practices appropriate to each of the various forest regions of the continental United States. It does not cover Hawaii, Puerto Rico or other Territories and thus does not have a chapter on tropical forests or include complete coverage of all forests in the United States.

Each chapter begins with a general description of the location and ecology of the Region. Included are areas by major forest groups, land ownership, inventory, industries, other forest benefits, physiography, geology and soils, climate and weather. This information on the Region is followed by the history and silvicultural requirements of common forest type groups in the Region.

The book is graced with many tables, charts, graphs, and pictures. However, it is difficult to know the target audience. If it is the general public, there is little uniformity among chapters which impacts clarity. Also some chapters include charts that are difficult to relate to a text which includes terminology above that expected of the informed citizen. If the target audience is the technical forester, the book suffers from a lack of a glossary plus maps and charts without scales making it impossible to check the validity of text statements. Further, the book concentrates on upper and lower canopy descriptions with little treatment of lower level vegetation which has an effect on ecosystem behavior and hence, appropriate silvicultural practice. If the target audience is students, the independently written chapters and lack of consistently developed ecological theme make this book of readings in silviculture, not a text or teachable book on current knowledge of ecosystem management.

Regardless of the above, one cannot argue with the successful acceptance by readers as evidenced by third edition publication. A wealth of historical information is presented along with a very readable description of how to grow trees. In today's market that probably justifies the $79.95 price of the cloth edition.

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