

TEACHERS' REACTIONS TO AND USE OF THE FLORIDA NURSERY OPERATIONS INSTRUCTIONAL MATERIALS

Thomas L. Curry
Graduate Assistant
Agricultural Education
Texas A & M University

Jimmy G. Cheek
Associate Professor
Agricultural & Extension Education
University of Florida

Introduction

In many states the ornamental horticulture industry has grown at a rapid pace, increasing the need for trained individuals to meet the manpower demands. One source of trained individuals is vocational education, more specifically the area of agribusiness and natural resources education. There are several programs that are primarily designed to prepare individuals for employment in the ornamental horticulture industry. Of those, nursery operations was the primary concern for this study.

For a particular educational program to be effective, there must be suitable instructional materials. To provide teachers of ornamental horticulture, in particular nursery operations, with instructional materials designed to meet their needs and the needs of students, the Florida Career Education Center developed a package of instructional materials referred to as the Nursery Operations Materials.

These materials were designed to be used in an individualized competency-based setting. The package included nine unit guides, a corresponding workbook, a field guide, an illustrated plant identification manual (Dig Manual), and an instructor's guide complete with pretests and posttests. These materials were disseminated primarily through inservice educational workshops held in each of the five supervisory regions in Florida. Teachers who did not attend a workshop received the materials by other methods.

Instructional materials need to be evaluated to determine their contribution to student growth, credibility, and practical considerations (Finch and Crunkilton, 1979). This study was designed to serve as one aspect of that evaluation. Furthermore, the information obtained could be used in making decisions

about future development and modification of the Nursery Operations Materials. In addition, the results could be useful in further development of competency-based instructional materials.

Objectives

The purpose of the study was to determine the reactions of selected agribusiness and natural resources education teachers in Florida to the Nursery Operations Materials and to identify how they used the materials. The specific objectives were to:

1. Identify how, with what program, and for what period of time teachers used the materials.
2. Determine if there was a correlation between teachers' reactions to the components of the package and their ornamental horticulture experience.
3. Determine if there was a significant difference between how teachers were introduced to the materials and how they reacted to and used the Nursery Operations Materials.
4. Determine teachers' preference for V-TECS materials or for Nursery Operations Materials.
5. Identify teachers' ratings of V-TECS and Nursery Operations Materials as to ease of use, meeting students' needs, presentation of materials, and organization.
6. Determine if there was a significant difference between how teachers used the Nursery Operations Materials when grouped according to their ornamental horticulture experience.
7. Determine if there was a significant difference between the level at which the teachers taught and how they reacted to and used the Nursery Operations Materials.

Research Procedure

Sample Investigated

The target population of this study included 207 teachers who received the Nursery Operations Materials. The sample size was determined to be 140 based on a recommended sample selection table (Krejcie and Morgan, 1970). A random sample, stratified by supervisory regions, was drawn.

Data Collection Procedures

Data were collected by a mailed questionnaire. Two follow-up mailings were made to non-respondents. Of the 140 teachers sampled, responses from 105 teachers (75 percent) were received.

Statistical Analyses

Analyses of data for teacher reaction and utilization responses (objectives 1, 2, 5, and 6) included frequency distributions, percent responses, and means. Spearman's rank correlation coefficients were used to analyze objective 3. For objectives 4, 7 and 8, analysis of variance and Kruskal-Wallis non-parametric one way analysis of variance were used.

Findings

In the interest of conciseness, the following summary of findings is presented:

1. More than three-quarters of the respondents had used the Nursery Operations Materials.
2. The primary reason teachers did not use the Nursery Operations Materials was that they did not teach a program where the materials were suitable.
3. Seventy-two percent of the respondents rated the overall readability of the materials as suitable; only 8.5 percent rated it as being too high.
4. The performance objectives in the Unit Guides were rated valuable or very valuable by more than 92 percent of the respondents.
5. The teachers' reactions to the Unit Guides ranged from average to above average regarding scope of subject matter, presentation of the material, meeting students' needs, value of the Field Guide activities, and tests.
6. Teachers' reaction to scope of subject matter, presentation of the material, and meeting students' needs for the Field Guide and Workbook components were indicated by overall means ranging from 3.50 to 3.63, where three is equated to average and four is equated to above average.

7. The Dig Manual was rated substantially higher than the other components of the Nursery Operations Materials regarding scope of subject matter, presentation of the material, and meeting student needs. All mean reaction scores to the Dig Manual were above 4.5 where four is equated to above average and five is equated to excellent.
8. Nursery operations was the program in which respondents most often used the Nursery Operations Materials, as suggested by the instructor's guide.
9. Teachers used the Nursery Operations Materials for more class periods in the nursery operations program than in any other ornamental horticulture program.
10. There was a weak but statistically significant negative correlation between the number of post-high school ornamental horticulture courses completed by teachers and their reactions to the Nursery Operations Materials. As the number of post-high school ornamental courses completed by teachers increased, their positive reactions to the Nursery Operations Materials tended to decrease.
11. There were no significant correlations between teachers' reactions to the Nursery Operations Materials and the ornamental horticulture experience factors of years employed in the ornamental horticulture industry or years of teaching ornamental horticulture courses.
12. There were no significant differences in teachers' opinions of the Nursery Operations Materials according to the method in which they were introduced to the materials.
13. No significant differences were identified in level of use of the materials in the nursery operations program when grouped according to the method that the teachers were introduced to the materials.
14. Slightly more than 80 percent of the respondents indicated a preference for using the Nursery Operations Materials over the V-TECS materials.
15. Teachers rated the Nursery Operations Materials higher than the V-TECS materials in relation to ease of use, meeting students' needs, presentation of materials, and organization.

16. No significant differences were identified between how teachers used the Nursery Operations Materials when grouped according to the number of post-high school ornamental horticulture courses teachers completed, years teachers were employed in the ornamental horticulture industry, and years of teaching ornamental horticulture courses.
17. There were no significant differences between the reactions of teachers to the Nursery Operations Materials when grouped according to the educational level at which teachers taught.
18. There were no significant differences in how teachers used the materials when grouped according to the educational level primarily taught by the teachers.
19. The most frequent suggestion or recommendation from teachers was that the Nursery Operations Materials should cover each subject in more depth.

Conclusions

The following conclusions were drawn from the findings of this study:

1. The Nursery Operations Materials were used in varying degrees in all of the ornamental horticulture programs and other agribusiness and natural resources education programs investigated in this study.
2. Based on eight characteristics studied, it was concluded that teachers perceived the Field Guides, Unit Guides, and Workbook components of the Nursery Operations Materials slightly better than average in value. They rated the Dig Manual above average to excellent.
3. Nursery operations was the primary program in which teachers made the greatest use of the Nursery Operations Materials.
4. Teachers' ornamental horticultural experiences (post-high school ornamental horticulture courses completed, years employed in the ornamental horticulture industry, and years teaching ornamental horticulture classes) had little effect on how they reacted to and used the Nursery Operations Materials.
5. Teachers preferred to use the Nursery Operations Materials over the V-TECS materials.

6. The methods by which teachers were introduced to the materials had no significant effect on their reactions to or use of the Nursery Operations Materials.
7. The level at which teachers taught had no significant influence on their reactions to and use of the Nursery Operations Materials.

Implications and Recommendations

Based on the findings and conclusions drawn from this study, the following recommendations were deemed to be appropriate:

1. The Unit Guide, Field Guide, and Workbook components of the Nursery Operations Materials were perceived to be average to above average in quality. These materials were considerably more expensive to develop and produce when compared to more traditional types of instructional materials, i.e., those which are not specifically designed for individualized instruction. Consequently, a study should be initiated using an experimental design to study the impact of the Nursery Operations Materials on student achievement as compared to more traditional types of instruction and instructional materials.
2. Decisions regarding modification and future production of the Nursery Operations Materials and similar materials (with the exception of the Dig Manual) should be postponed until a student achievement study is completed.
3. The least-cost method should be used to introduce the Nursery Operations Materials to teachers since there were no significant differences identified between the method of introduction to the materials and teachers' reactions to and use of the materials.
4. Dig Manuals should be made available in sufficient quantities for teachers of ornamental horticulture and other agribusiness and natural resources education programs. Similar illustrated plant identification manuals that are geographically-specific should be made available to teachers of ornamental horticulture in other areas of the country.

(Continued on page 66)