

AN ASSESSMENT OF THE PARKS AND NURSERY
MANAGEMENT TECHNICIAN PROGRAM AT
EASTERN OKLAHOMA STATE COLLEGE

By

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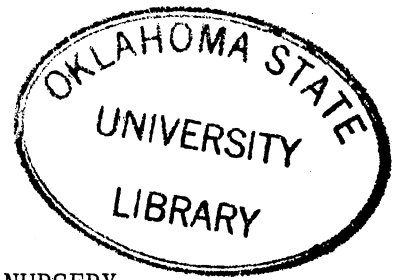
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CHAPTER I

INTRODUCTION

Americans are enjoying a standard of living far greater than any previous generation. Advancements in technology have freed man from many of his time-consuming activities. This increased leisure time coupled with the increasing population has created an increased demand on our natural resources.

If we are to meet this demand we must manage our renewable resources in a professional manner. Without well-educated personnel to manage our parks and produce the plant materials to renew these resources the damage from use alone will in effect destroy the very things that people come to the parks to enjoy.

As knowledge expands there is a need to communicate with industry to perceive the changes necessary in the technician's curriculum to produce an employable person for the industry. Eastern Oklahoma State College needed an assessment of the Parks and Nursery Management program by graduates and their employers to accomplish this task.

Statement of Problem

Since education institutions are charged with preparing their students to enter the work force at an acceptable knowledge and skill level, there arises a continuous need for Eastern Oklahoma State College to evaluate and make needed improvements in the Parks and

Nursery Management curriculum.

Purpose

The purpose of this study was to ascertain the perceptions of graduates and their employers concerning the adequacy of training received in the Parks and Nursery Management Technician program at Eastern Oklahoma State College.

Research Objectives

To achieve the objectives of this study, the following research questions were formulated.

1. To determine the perceptions of graduates regarding the importance of skill areas for which they are employed.
2. To determine employer's perceptions regarding the importance of skill areas considered essential for entry level employment.
3. To compare employer and graduate perceptions concerning the importance of entry level skill areas and adequacy of training received.

Scope

The population of this study was restricted to Parks and Nursery technician graduates, who have completed the program since its initiation in 1977 and their employers.

Definition of Terms

Administration - A level of responsibility which includes executive duty over a segment of an organization.

Laborer - "An individual who is in a training capacity with industry having a minimum of responsibility within an organization" (Albright, 1976, p. 6).

Middle-Management - "A work force category which is between a labor and administrative level. It is one which is termed a first or second line supervisor having responsibility over a small group of individuals or area of land" (Albright, 1976, p. 6).

Nurseryman - A person who owns and conducts a nursery for plants.

Parks and Nursery Management - Technician program taught at Eastern Oklahoma State College which covers skills used in the area of management of natural resources.

Technology - "Knowledge that deals with industrial, arts and science" (Wentworth and Chadsey, 1966, p. 575).

Following are definitions of terms as used in the questionnaire of this study. These terms also represent the courses taught in the Parks and Nursery Management Technician program at Eastern Oklahoma State College.

Communication - "Indicates ability to transmit ideas, concepts, and information by writing, speaking, listening, and reading" (Albright, 1976, p. 7). The course relating to this area is English.

Forestry Skills - Application and understanding of concepts and tools associated with basic forestry. The courses relating to this area are "Introduction to Forestry," and "Forestry Special Topics."

Landscaping Techniques - Understanding of the basic principles of plants in relation to arrangement for beauty, utility, and conservation. The course relating to this area is Landscaping Principles.

Mathematics - Use of algebra and technical math including the ability to read and construct graphs and charts. The course relating to this area is "Technical Math."

Nursery and Greenhouse Practices - Basic principles of nursery and greenhouse construction, operation, and maintenance. The course relating to this area is "Nursery and Greenhouse Management."

Plant Insect and Disease Control - Ability to identify common insects and diseases and recommend control while using chemical safety. The course relating to this area is "Plant Insect and Disease Control."

Parks and Recreation Concepts - Ability to understand the structure and operation of parks and recreational facilities. The course relating to this area is "Parks and Recreation Management."

Personnel - "Adaptability to problems of human relations and training, use of time, employer loyalty, and morals" (Albright, 1976, p. 7). The course relating to this area is "Personnel Management."

Plant Identification - Ability to identify plants associated with the forest and nursery business. The courses relating to this area are "Plant Materials" and "Dendrology."

Plant Propagation - Ability to plant seeds, take cuttings, and use chemicals to develop additional plants. The course relating to this area is "Plant Propagation."

Surveying - Correct use of all surveying instruments and recording of information. The course relating to this area is "Surveying I."

Turf Grass Practices - Basic principles of identifying, installation, and maintenance of turf grasses. The course relating to this area is "Turfgrass Management."

Need for the Study

Eastern Oklahoma State College began the Parks and Nursery Management Technician program in the Fall of 1977. The program was developed by combining the technician programs taught at that time of "Parks Management" and "Arboriculture." Since 1977, 24 students have graduated. The primary instructor for the program has changed four times. The program was closed during the 1984-85 school year due to low enrollment. The program was re-opened in the Fall of 1985 because of interest in the horticulture field in Southeastern Oklahoma.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The review of literature for this study will be subdivided into four basic sections as follows:

1. The Junior College and Vocational Education,
2. Curriculum Needs,
3. Follow-up and Evaluation,
4. Summary.

The Junior College and Vocational Education

Early in our country's history, colleges and universities directed their programs toward a broad range of study which included the arts, humanities, and other areas considered to have value in the broadening of an individual's total self. Education directed toward preparing an individual for an occupation or vocation was something left to other facets of education such as industry or the private sector (Darcy, 1980). Vocational education has been a vital part of civilization as indicated by history and biblical studies.

Van Dalen (1979) reported:

Malthus foresaw mass starvation because of over-population, but he did not foresee the productivity of the Industrial Revolution and Agricultural America (p. 341).

This rapid increase in technology has prompted our colleges to take a closer look at vocational education. Many segments of education ranging from high school, vocational technical schools, junior colleges, and universities have provided excellent education to train the skilled worker. Reynolds (1969) reports that as the growth of junior colleges continues, there is every evidence that the curriculum policies established for them give a prominent place to vocational-technical programs.

Everhart (1985) contributes to this study by further defining this situation when he stated:

A major development in the past few decades has been the emergence of high-quality community college horticulture programs. The programs have filled the void left by Bachelor's and advanced degree programs (p. 3).

Many junior colleges have a horticulture technician program of this kind. Due to recent budget problems some of these programs have been discontinued. There has still been a need for this type of technician. Dowdell and Dowdell (1969) supports this idea when they concluded that although it is possible to learn horticulture techniques by working in the nursery for others, the person with college training will have the best chance for success.

Colleges provide the professional education in personnel and communication and a wide variety of technical skills which an individual might not be exposed to the job.

Curriculum Needs

The curriculum needs for a technician planning to work in the Parks and Nursery Management area is very broad. The curriculum

consists of mainly horticultural principles as they apply to parks and nurseries. The technician also receives training in mathematics, communications, surveying, and personnel. Owens (1984) points out the need for a broad educational base.

Without question, the rapidity with which change is occurring in industry--processes, machines, and management--change that creates new positions overnight and eliminates others during the same period--is evidence that broad general education skills are needed to continue to hold a job and to change careers (p. 3).

This points out the necessity of a proper blend of technology and general education.

Technicians must also be prepared for a changing work force within their discipline. Kirts (1984) reports Natural Resource Management is a good example of interrelated disciplines. The graduate must not only know his job well but also have a basic awareness of related disciplines. Vocational education must be multidisciplined because the real world is multidisciplined.

One of the best sources of information regarding the types of skills necessary for a technician is the business community. Involvement by the business community is necessary to insure the most current techniques are being taught. Carr (1986) supports this theory by reporting the first and foremost characteristic of an exemplary program is that it has not been developed in educational isolation. The program reflects the involvement of business and industry and others from start to finish.

Ideas from industry help us develop our curriculum content. Jubenville (1984), Associate Professor of Outdoor Recreation Management and Planning at the University of Alaska, reports a viable

technician program should be concerned with resource management. Areas of additional knowledge may be physical development and visitor services. This emphasizes the need for the Parks and Recreation part of the curriculum as well as horticultural skills.

There is a vast area of knowledge available to the technician and the instructor of such a program. Cheatam (1986) reports that scientific knowledge is doubling every five to seven years. Unless we stay current in our subject matter, students leaving our classroom will be lacking the knowledge and skills to operate in our complex society.

Eastern Oklahoma State College recognizes this need to stay current in the field of Parks and Nursery Management. This evaluation conducted by a follow-up of the graduates and their employers will gather valuable information for the assessment and/or revision of the curriculum at the college.

Follow-up and Evaluation

Venn (1970) relates the problems which can develop from lack of proper evaluation of a program when he stated:

The lack of manpower policies at the federal, state, and local levels has resulted in a hodgepodge of programs which have been neither comprehensive in meeting occupational demands nor effective in developing human resources--the only source of manpower (p. 4).

Davenport (1981) brings us more up-to-date on the subject. He states:

In the ten years since Grant Venn made this statement, the change has been in magnitude; that is more programs, more studies, more agencies, more paper--in effect more "hodge-podge" (p. 4).

We as educators must take a close look at the technical curriculum to evaluate whether we are part of the problem or part of the solution. Elson (1972) gives us an excellent example of a place to start when he reported feedback from former students is one of the major sources of information and can well be the starting point in the evaluation of educational programs. Seitze (1981) further proves this point in his study pointing out whether graduates are actually achieving as intended is a far better basis for judging an instructional program's worth than measures such as student grades or instructor's earned degrees. Both men have mentioned the need to evaluate the former students. It has also been considered valuable in the studies of Hodges (1973) and Darcey (1980) to compare the opinion of the employer with that of the graduate to further clarify the need for revisions to be made in the curriculum.

Summary

Vocational programs must constantly be aware of the need for updating programs to meet the changing technology in that particular discipline. It is not sufficient to teach in a program and assume that a need has been met. We must further evaluate the program by conducting follow-up studies of the graduates and their employers. We as educators have the responsibility not only to our graduates but to those who enter our program to develop the best program possible to produce a technician who will be ready to enter the world of work upon graduation. Seitze (1981) sums up the situation by stating:

By all appearances, conditions ahead will require occupational educators who can adapt their programs to shifting enrollments, new clientele, and scarce resources. Those occupational educators applying an effective system of program evaluation will be best prepared (p. 61).

CHAPTER III

PROCEDURES

The purpose of this study was to ascertain the perception of graduates and their employers concerning the adequacy of training received by the Parks and Nursery Management Technician programs at Eastern Oklahoma State College.

Population

The population of this study was comprised of all of 24 graduates and their employers of the Parks and Nursery Management program at Eastern Oklahoma State College.

Procedure

Given the number of individuals, time, and distance of the researcher from the population, it was decided that a mailed questionnaire would be the best method to use in collecting the data.

The questionnaire used to collect the data was developed from three study instruments. One of the instruments was used by Hodges (1973) to assess the effectiveness of Agricultural Mechanics training received at Modesto Junior College of Modesto, California. Another of the studies using a similar instrument was Darcy (1980) who completed a follow-up study of Mechanized Agriculture graduates at Texas A&M University. The third instrument used in a similar study was designed

by Albright (1976).

The questionnaires developed for this study (Appendix A) were included with two cover letters (Appendix B). The letters explained the purpose of the study of the program to the graduates and their employers.

Development of the Questionnaire

The instrument used in this study included 12 skilled areas which were identified by the Parks and Nursery Management Technician staff. The 12 areas represented the major areas of the curriculum taught in the technician program.

The following 12 skill areas were:

1. Communication
2. Forestry Skills
3. Landscaping Techniques
4. Mathematics
5. Nursery and Greenhouse Practices
6. Plant Insect and Disease Control
7. Parks and Recreation Concepts
8. Personnel
9. Plant Identification
10. Plant Propagation
11. Surveying
12. Turf Grass Practices

The 12 skill areas were rated across one five-point coded response, two four-point "Likert-type" scales, and one three-point "Likert-type" scale. Real limits were used to clarify the information. The following

statements were transformed into questions to produce information regarding the curriculum which could be used to evaluate the effectiveness of the program. The "Likert-type" scales and real limits used for evaluating the graduates' employer responses are provided below:

1. Extremely Important (E). 1.00-1.49
2. Important (I). 1.50-2.49
3. Slightly Important (S). 2.50-3.49
4. Not Important (NI). 3.50-4.00

A coded response was used to determine where the graduate believed he learned the skill. The code was used as follows: each questionnaire contained an area where the respondent could make any comments he thought would improve the program.

Each mailed questionnaire included a self-addressed, stamped envelope for return. The questionnaires were coded to allow for follow-up of the non-respondents.

Three weeks after the initial mailing, a follow-up letter (Appendix B) was mailed to the non-respondent. The letter asked them if they had misplaced the questionnaire and reminded them of its importance. An additional copy of the questionnaire was included in the second follow-up letter.

Statistical Procedure

All responses gathered was analyzed using frequency distributions and percentages. Charts were utilized when added clarity and simplicity was needed.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this study was to ascertain the perceptions of graduates and their employers concerning the adequacy of training received in the Parks and Nursery Management Technician program at Eastern Oklahoma State College.

Study Participants

Fifteen of the 24 graduates of the Parks and Nursery Management Technician program at Eastern Oklahoma State College responded to the survey. Five of their employers responded. The response rate was 62.5 percent for the graduates and 21 percent for their employers.

Employment of Graduate Respondents

Graduates of the program were divided into three categories of employment which are provided in Table I, full-time parks and nursery, part-time parks and nursery; and non-related employment. There were eight graduates (53 percent) employed in parks and nursery related fields full-time. There were three (20 percent) employed part-time in the parks and nursery field and four (27 percent) employed in a non-related field.

The graduates in Table II were grouped into job titles relating to the curriculum taught. The Nursery title included an individual

TABLE I
DISTRIBUTION OF STUDY RESPONDENTS
BY EMPLOYMENT STATUS

Employment Status Category	Number of Respondents	Percentage
Full-time Parks and Nursery	8	53
Part-time Parks and Nursery	3	20
Non-related Employment	<u>4</u>	<u>27</u>
Total	15	100

TABLE II
JOB TITLE CATEGORIES OF GRADUATES AND EMPLOYERS

Job Title Category	Number of Graduates	Number of Employers
Parks and Wildlife	3	2
Nursery	2	1
Herbicides and Pest Control	2	1
Personnel Management	2	0
Greenhouse	1	1
Forestry	1	0
Welder	1	0
Carpenter	1	0
Military	1	0
Housewife	<u>1</u>	<u>0</u>
Total	15	5

employed in a landscape nursery and one employed in a forest nursery. The Parks and Wildlife title includes two park rangers and one wildlife ranger. The Herbicides and Pest Control title includes two positions, one with the forest industry and one with the ornamental horticulture industry. The Forest title includes an individual working as a forest technician. The Greenhouse title includes an individual working in a florist shop. The Personnel Management title includes two individuals, one of which works as a manager of a large department store's sporting department and the other as assistant manager of a convenience store which sells plants as part of their merchandise. The Welder, Carpenter, Military, and Housewife titles were individuals working in these job classifications.

The employers responding to the questionnaire were an owner of a landscape nursery in central Oklahoma, two supervisors of state parks within Oklahoma, a supervisor of the herbicide and pest control department of a national forest in Texas and a flower shop owner and operator in Tennessee.

The employers' responses were based on the type of job held by the graduate. Each graduate's job required the use of different combinations of the 12 skill areas and different levels of proficiency within these skills. Table II indicates the wide variety of job titles within the Parks and Nursery Management Technician field. Table II also indicates the job title category which the employer perceived his employee to be classified.

Education Level of Respondents

There were three respondents who had completed an additional educational program beyond an Associate of Applied Science degree in Parks and Nursery Management Technology. The degrees were in Forest Technology, Science, and Recreation and Parks Administration (Table III).

Importance of Skill Areas

In Table IV the employers and graduates were in agreement on the importance of eight of the 12 skill areas. Employers perceived Communications and Plant Insect and Disease Control were extremely important were graduates perceived the areas as important. The graduates perceived none of the 12 skill areas as extremely important. Landscaping Techniques and Nursery and Greenhouse Practices were perceived as important by the employers and only slight important by the graduates.

The graduates ranked Personnel number one. In overall rankings were employers ranking indicated a tie between Communications and Plant Insect and Disease Control. The graduates ranking of importance in the order of one through five were Personnel, Communications, Mathematics, Plant Identification, and Plant Insect and Disease Control.

The employers ranking of importance of the skill to the graduate's job were Plant Insect and Disease Control, Communications, Plant Identification, Personnel, and Landscaping Techniques. It should be noted that rankings varied to some degree but means were fairly close when real limits categories were the same.

TABLE III
DISTRIBUTION OF STUDY RESPONDENTS
BY EDUCATION LEVEL COMPLETED

Degree	Number of Respondents	Percentage
Associate Degree in Parks and Nursery Management Technician Program at Eastern Oklahoma State College	12*	80
Additional degrees	<u>3</u>	<u>20</u>
Total	15	100

*The four graduates who are not in a related job are included in this table.

TABLE IV
SUMMARY OF GRADUATE AND EMPLOYER RANKINGS
OF THE IMPORTANCE OF THE SKILL

Skill Areas	Graduate			Employer		
	Mean*	Rank	Importance	Mean	Rank	Importance
Communications	1.87	2	I	1.40	1.5	E
Forestry Skills	2.87	8	S	2.60	8.5	S
Landscaping Techniques	2.73	6.5	S	2.00	5	I
Mathematics	2.07	3	I	2.40	6.5	I
Nursery and Greenhouse Practices	2.73	6.5	S	2.40	6.5	I
Plant Insect and Disease Control	2.27	5	I	1.40	1.5	E
Parks and Recreation Concepts	3.00	10	S	2.60	8.5	S
Personnel	1.67	1	I	1.80	4	I
Plant Identification	2.20	4	I	1.60	3	I
Plant Propagation	2.93	9	S	3.00	10	S
Surveying	3.13	11.5	S	3.40	11.5	S
Turf Practices	3.13	11.5	S	3.40	11.5	S

*Code Mean: (1) Extremely Important Real Limits Code: 1.00-1.49 E
 (2) Important 1.50-2.49 I
 (3) Slightly Important 2.50-3.49 S
 (4) Not Important 3.50-4.00 NI

Graduates' Abilities to Perform Skills

Table V represents a summary of the graduates' and employers' perceptions of the graduates' abilities to perform the skill. The employers and graduates perceived none of the skill areas to be outstanding in the ability of employees to perform the skill. Employers perceived graduates' abilities as being above average in Plant Identification and average in the other skill areas. In comparison, graduates perceived themselves as above average in Communication, Forestry, and Plant Identification. None of the 12 skill areas was perceived by employers or graduates as needing improvement. Plant Insect and Disease Control was ranked 11 by the graduate and 12 by the employer indicating agreement on the ability to perform the skill required in the area. For the most part employers and graduates were in agreement on their perceived ability to perform the skills required in the occupation.

Instruction Received by Graduates

Table VI is a summary of both graduates' and employers' perception of needed levels of instruction in the skill areas. Both the graduates and employers were asked to respond to a question which described the level of instruction the graduates had received. The graduates were asked, "Did you receive sufficient instruction in the skill area?" The employers were asked, "Do you feel the employee should have received more instruction in the skill area." The following is a narrative comparison of these responses.

In the skill area Communications, 80 percent of the employers

TABLE V
SUMMARY OF GRADUATE AND EMPLOYER RANKING BY
GRADUATES' ABILITY TO PERFORM SKILL

Skill Area	Graduate			Employer		
	Mean*	Rank	Performance	Mean*	Rank	Performance
Communication	2.27	1.5	AA	2.80	5.5	A
Forestry	2.27	1.5	AA	2.60	2.5	A
Landscaping Techniques	2.53	4.5	A	2.80	5.5	A
Mathematics	3.00	9	A	3.00	9.5	A
Nursery and Greenhouse Practices	2.60	6.5	A	3.00	9.5	A
Plant Insect and Disease Control	3.40	11	A	3.40	12	A
Parks and Recreation	2.67	8	A	2.80	5.5	A
Personnel	2.53	4.5	A	3.00	9.5	A
Plant Identification	2.33	3	AA	2.20	1	AA
Plant Propagation	2.60	6.5	A	2.60	2.5	A
Surveying	3.47	12	A	3.00	9.5	A
Turf Grass Practices	3.07	10	A	2.80	5.5	A

*Code Mean: (1) Outstanding
(2) Generally Above
Average
(3) Average
(4) Need Improvement

Real Limits Code: 1.00-1.49 0
1.50-2.49 AA
2.50-3.00 A
3.49-4.00 NI

TABLE VI
SUMMARY OF RESPONDENTS' PERCEPTION OF NEEDED
LEVEL OF INSTRUCTION IN THE SKILL AREAS

Skill Area	Employers				Graduate			
	Should the employee have received more instruction?				Did you receive sufficient instruction			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Communications	4	80	1	20	11	73	4	27
Forestry	1	20	4	80	13	87	2	13
Landscaping Techniques	2	40	3	60	13	87	2	13
Mathematics	2	40	3	60	5	33	10	67
Nursery and Greenhouse Practices	2	40	3	60	13	87	2	13
Plant Insect and Disease Control	4	80	1	20	5	33	10	67
Parks and Recreation Concepts	3	60	2	40	15	100	0	0
Personnel	3	60	2	40	8	53	7	47
Plant Identification	5	100	0	0	10	67	5	33
Plant Propagation	2	40	3	60	11	73	4	27
Surveying	2	40	3	60	5	33	10	67
Turf Grass Practices	2	40	3	60	10	67	5	33

indicated that additional instruction was needed where 73 percent of the graduates felt their training was sufficient. The Forestry area illustrated more agreement in that 80 percent of the employers felt graduates were not needing additional instruction and 87 percent of the graduates felt their instruction was sufficient. Further agreement occurred in the area of Landscaping Techniques and Nursery and Greenhouse Practices with 60 percent of the employers and 87 percent of the graduates indicating instruction was sufficient. In the Mathematics area 60 percent of the employers noted adequate instruction while only 33 percent of the graduates felt the instruction was adequate. Plant and Insect Disease Control showed continued agreement with 80 percent of the employees and 67 percent of the graduates seeing the need for more instruction. Park and Recreation concepts is an area of disagreement between employers and graduates with 100 percent of the graduates indicating sufficient instruction, whereas only 40 percent of the employers agree. Both the employer and the graduate sees the need for further instruction in Personnel, with 40 percent employers indicating sufficient instruction and 53 percent of the graduates. Plant Identification is an area of wide disagreement with 67 percent of the graduates indicating sufficient instruction and none of the, 100 percent, employers feel the graduates had sufficient instruction. Seventy-three percent of the graduates and 60 percent of the employers stated Plant Propagation skills were sufficient. Sixty-seven percent of the graduates indicated insufficient skill in surveying, while 60 percent of the employers stated they were sufficient. Sixty-seven percent of the graduates and 60 percent of the employers agree and state sufficient instruction was

received in Turf Grass Management.

Location of Skill Attainment

In an attempt to locate the perceived source of skill attainment, the question, "Where did you learn the skill?" was asked the graduates. Table VII is a summary of responses where the graduates perceived they acquired the skill. Fourteen of the responses indicated Eastern Oklahoma State College (EOSC) as a source of skill attainment while two responses indicated the skill was acquired on a regular job.

In the skill area Communication, five responses indicated that the skill was acquired at the High School level, while ten responses provided an indication of the skill be acquired at EOSC. Further investigation of the table revealed two responses under regular job and one response that the skill was acquired elsewhere. It should be noted that responses total more than 15 which illustrates that some respondents felt the skill was attained in more than one location.

In the skill area Personnel, 11 responses indicated the skill was acquired on a regular job. Eight of the responses indicated the skill was acquired at EOSC while one response indicate the skill was acquired during an apprenticeship.

In the skill area Mathematics, 13 responses indicated the skill was acquired at EOSC while high school, apprenticeship, and regular job categories received two responses each. One response indicated the skill was acquired elsewhere.

In the remaining nine skill areas EOSC was selected by either 14 or 15 responses while high school received no responses, apprenticeship received no higher than one response per skill area,

TABLE VII
SUMMARY OF RESPONSES WHERE THE GRADUATE ACQUIRED THE SKILL

Skill Area	Distribution of Responses by Source of Skill				
	High School N	EOSC N	Apprentice N	Regular Job N	Elsewhere N
Communication	5	10	0	2	1
Forestry	0	14	0	1	1
Landscaping	0	14	0	1	1
Mathematics	2	13	2	2	1
Nursery and Greenhouse	0	15	0	2	0
Plant Insect and Disease Control	0	14	0	2	0
Parks and Recreation	0	15	0	2	0
Personnel	0	8	1	11	0
Plant Identification	0	15	0	1	0
Plant Propagation	0	15	0	1	0
Surveying	0	15	1	1	0
Turf Grass Practices	0	14	0	1	0

Note: Numbers will add up higher because of multiple responses.

regular job no higher than two responses per skill area, and elsewhere no higher than one response per skill area. The number of responses varied from 15 to 17 which indicates multiple responses in many of the skill areas.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The Parks and Nursery Management Technician program at Eastern Oklahoma State College was assessed in this study to determine perceptions of graduates and employers toward skills and attainment of those skills. In addition the importance of those skills were assessed by both groups.

Of the 24 graduates, 15 responded to the questionnaire and five of their employers responded to the employer questionnaires. Twelve major skill areas were determined by courses taught within the Parks and Nursery Management Technician program. Each of the 12 skill areas is directly related to a course each student must enroll in to receive the Parks and Nursery Management Technician degree. The skills were described in terms with which the respondents would be familiar. These skill areas were reviewed by Eastern's forestry staff as to their relevance to the study.

The graduate respondents were asked to determine the importance of the 12 skill areas to their present job and to state if they received sufficient instruction in the 12 skills.

The employers were asked to determine the importance of the 12 skill areas to the graduates' present job, to evaluate the graduates'

ability in the 12 skill areas, and to state whether the graduate should have received more instruction in the 12 skill areas. Background data collected included employment status, job titles, and education level attained by the graduates.

Limitations

The findings of this study must be interpreted with the knowledge of the limitations. The response rate from the graduates was 63 percent and the response rate from the employers was 21 percent of the total population of 24. The need for the 12 skill areas and the proficiency within the skill varies depending upon where the technician is employed.

Summary of Findings

The graduates' ability to perform the 12 skill areas was perceived by the employers as being perceived in the average category. The graduates perceived that they received sufficient instruction in all skill areas except Math, Surveying, and Plant Insect and Disease Control as important.

Both the employers and graduates identified Plant Identification, Personnel, and Math as important. The employers recognized that Landscaping Techniques and Nursery and Greenhouse Practices as important. The graduates perceived these same two skill areas as slightly important. Skill areas which both the graduates and employers perceived as slightly important were Parks and Recreation Concepts, Turf Practices, Surveying, Plant Propagation, and Forestry skills.

Communication was a skill area where graduates indicated a

sufficient level of instruction, but the employer indicated the skill area needed more instruction. Personnel was ranked by the employers as one of the graduate's least mastered skills. Plant Insect and Disease Control is the skill area where both graduates and employers indicated a perceived weakness. Both also have indicated a need for further instruction. Although not recognized as one of the most important skills, Surveying and Math were areas where the graduates perceived they had developed an inadequate skill but the employer thought their skill was sufficient.

Conclusions

From the findings of this study it was concluded that more emphasis should be placed on Insect and Disease Control, Communications, Personnel, and Parks and Recreation Concepts areas in the Parks and Nursery Management Technician curriculum.

It was also concluded that the graduate felt insufficient instruction was received in Math and Surveying, but the employer perceived them as sufficient.

Plant Identification is a skill area where employers perceived the graduate needed more instruction; however, both the employer and the graduate rated the graduate's ability to perform the skill as above average. From this information an additional conclusion would indicate sufficient instruction had been provided in this area, but continued emphasis is important.

It could be concluded from the data that graduates feel that many of the skills they possess in the 12 areas, with the exception of Personnel and Communications, are part of the EOSC program.

Recommendations

Based on the findings of this research, the author suggests the following recommendations.

1. Communications, plant insect and disease control and parks and recreation skills be emphasized in all 12 skill areas.
2. Personnel management and surveying skills be more practically related to actual job requirements.
3. Further studies of a similar nature be conducted periodically to evaluate the program's effectiveness as related to the graduate's job performance.
4. Further studies of a similar nature be conducted to develop a curriculum that could be utilized by Parks and Nursery Technician programs in the Southern United States.
5. Instructors and curriculum at EOSC should emphasize the importance of skills in the Park and Nursery Management Technician program as described by potential employers.

Recommendation to Methodology

1. That methodology be carefully constructed to insure adequate employer input in future studies of this nature.

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APPENDIXES

APPENDIX A

QUESTIONNAIRES

PARKS AND NURSERY TECHNOLOGY CURRICULUM QUESTIONNAIRE

FORM A - EASTERN OKLAHOMA STATE COLLEGE

TECHNICIAN GRADUATE

All information on this form will be held in strict confidence and used for educational purposes only.

Name _____

Current Mailing Address _____

Name of Employer's Company _____

Address of Company _____

Office Telephone Number _____

Are you currently employed in a job related to Parks and Nursery?

Yes _____ No _____

If no, have you ever been employed in a related job? Yes _____ No _____

If not currently employed in a related field, please disregard having your supervisor complete Form B.

If employed, what is your current job title? _____

Have you held other related jobs since graduation? Yes _____ No _____

If yes, give job titles _____

If you have completed additional college work, please list below.

Related College degrees _____

Unrelated College degrees _____

For each of the skill areas listed on the following pages, respond to the statements underlined by circling the number in the blocks below the question which best reflects your opinion relative to the skill areas listed on the left of the survey form.

Form A - Questionnaire

SKILL	AREAS	How important is the skill to your present job?				How would you evaluate yourself on the skill upon graduation?				Where did you learn about the skill?					Did you receive sufficient instructions in the skill area?	
		1. Extremely important	2. Important	3. Slightly important	4. Not important	1. Outstanding	2. Generally above average	3. Average	4. Needs improvement	1. High school	2. EOSC Parks and Nursery Tech. Program	3. Apprentice	4. On regular job	5. Elsewhere	1. Yes	2. No
Communication:	indicates ability to transmit ideas, concepts and information by writing, speaking, listening, and reading.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Forestry skills:	application and understanding of concepts and tools associated with basic forestry.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Landscaping techniques:	understanding of the basic principles of plants in relation to arrangement for beauty, utility and conservation.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Mathematics:	use of algebra and technical math including the ability to read and construct graphs and charts.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Nursery and Greenhouse Practice:	basic principles of nursery and greenhouse construction, operation and maintenance.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Plant Insect and Disease Control:	ability to identify common insects and diseases and recommend control practices while using chemical safety.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Parks and Recreation Concepts:	ability to understand the structure and operation of parks and recreational facilities.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Personnel:	adaptability to problems of human relations and training, use of time, employer loyalty, and morals.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2

Form R - Questionnaire (Continued)

SKILL AREAS	How important is the skill to your present job?				How would you evaluate yourself on the skill upon graduation?				Where did you learn about the skill?					Did you receive sufficient instructions in the skill area?	
	1. Extremely important	2. Important	3. Slightly important	4. Not important	1. Outstanding	2. Generally above average	3. Average	4. Needs improvement	1. High school	2. EOSC Parks and Nursery Tech. Program	3. Apprentice	4. On regular job	5. Elsewhere	1. Yes	2. No
Plant Identification: ability to identify plants associated with the forest and nursery business.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Plant Propagation: ability to plant seeds, take cuttings and use chemicals to develop additional plants.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Surveying: correct use of all surveying instruments and recording of information.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2
Turf Grass Practices: basic principles of identifying, installation and maintenance of turf grasses.	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2

Please make additional comments regarding the Parks and Nursery Technician Program.

PARKS AND NURSERY TECHNOLOGY CURRICULUM QUESTIONNAIRE

FORM B - EMPLOYERS OF EASTERN OKLAHOMA

STATE COLLEGE PARKS AND NURSERY

TECHNICIAN GRADUATES

All information will be held in strict confidence and used for educational purposes only. A self-addressed envelope is attached so the form can proceed to the office directly.

Company or Firm _____

Address of Company or Firm _____

Supervisor's Department _____

Name of Rating Supervisor _____

Name of employee _____

For each of the skill areas listed on the following pages, please respond to the statements underlined by circling the number of the blocks below the question which best reflects your opinion relative to the skill areas listed on the left of the survey form.

Form B - Questionnaire

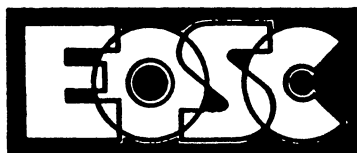
SKILL AREAS	How important is the skill to the employee's present job?				How would you evaluate the employee on the skill when first employed?				Do you feel the employee should have received more instruction in this skill area?	
	1. Extremely important	2. Important	3. Slightly important	4. Not important	1. Outstanding	2. Generally above average	3. Average	4. Needs improvement	1. Yes	2. No
Communication: indicates ability to transmit ideas, concepts and information by writing, speaking, listening, and reading.	1	2	3	4	1	2	3	4	1	2
Forestry skills: application and understanding of concepts and tools associated with basic forestry.	1	2	3	4	1	2	3	4	1	2
Landscaping techniques: understanding of the basic principles of plants in relation to arrangement for beauty, utility and conservation.	1	2	3	4	1	2	3	4	1	2
Mathematics: use of algebra and technical math including the ability to read and construct graphs and charts.	1	2	3	4	1	2	3	4	1	2
Nursery and Greenhouse Practice: basic principles of nursery and greenhouse construction, operation and maintenance.	1	2	3	4	1	2	3	4	1	2
Plant Insect and Disease Control: ability to identify, common insects and diseases and recommend control practices while using chemical safety.	1	2	3	4	1	2	3	4	1	2
Parks and Recreation Concepts: ability to understand the structure and operation of parks and recreation facilities.	1	2	3	4	1	2	3	4	1	2
Personnel: adaptability to problems of human relations and training. use of time, employer loyalty, and morals.	1	2	3	4	1	2	3	4	1	2

Form B - Questionnaire (Continued)

SKILL	AREAS	How important is the skill to the employee's present job?	How would you evaluate the employee on the skill when first employed?	Do you feel the employee should have received more instruction in this skill area?
		1. Extremely important 2. Important 3. Slightly important 4. Not important	1. Outstanding 2. Generally above average 3. Average 4. Needs improvement	1. Yes 2. No
Plant Identification:	ability to identify plants associated with the forest and nursery business.	1 2 3 4	1 2 3 4	1 2
Plant Propagation:	ability to plant seeds, take cuttings and use chemicals to develop additional plants.	1 2 3 4	1 2 3 4	1 2
Surveying:	correct use of all surveying instruments and recording of information.	1 2 3 4	1 2 3 4	1 2
Turf Grass Practices:	basic principles of identifying, installation and maintenance of turf grasses.	1 2 3 4	1 2 3 4	1 2
Please make additional comments regarding the Parks and Nursery Technician Program.				

APPENDIX B

TRANSMITTAL AND FOLLOW-UP LETTERS
TO STUDY POPULATION

**EASTERN OKLAHOMA STATE COLLEGE**

1301 W. Main, Wilburton, Oklahoma 74578 (918) 465-2361

We at Eastern Oklahoma State College are conducting a study of our Parks-Nursery Management graduates and we need your help. This study is being conducted for the purpose of identifying the areas of strength as well as the areas of weakness of our Park-Nursery Management Program.

We feel the best method of determining any changes needed in our forestry curriculum is to survey our graduates and their employers. We are sincerely concerned about the appropriateness of our program and we need your evaluation of the graduate's ability to perform on the job.

Please find enclosed a questionnaire marked Form B which we hope you will complete and return directly to us. Completion of the form should require no more than ten minutes of your time. A self-addressed stamped envelope is attached for your convenience.

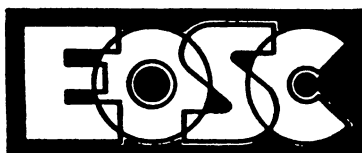
Please be assured that your responses will remain strictly confidential and no individual or business will be named in the report of the study.

With your help we will be able to identify both strengths and weaknesses in our Forestry Program.

Sincerely,

Daniel Stone
Forestry Department
Eastern Oklahoma State College

Enclosure

**EASTERN OKLAHOMA STATE COLLEGE**

1301 W. Main, Wilburton, Oklahoma 74578 (918) 465-2361

We are conducting a study of the Parks-Nursery Management Curriculum at Eastern Oklahoma State College, Wilburton, Oklahoma, and we need your help. This study is being conducted for the purpose of identifying areas of strength and areas of weakness.

We feel the best method of determining any needed changes in our curriculum is to survey the graduates of this program and their employers. We are sincerely concerned with your evaluation of the Parks-Nursery Program you completed at Eastern.

Please find enclosed two different questionnaires which we need for you and your supervisor to complete and return. Please take about ten minutes of your time and complete the questionnaire marked Form A. Then ask your immediate supervisor to complete the questionnaire marked Form B which should require no more than ten minutes of his time. This information is needed to help evaluate our Parks-Nursery Program.

Please be assured that you and your employer's responses will remain strictly confidential and no individual or business will be named in the report of the study.

Sincerely,

Daniel Stone
Forestry Department
Eastern Oklahoma State College

Enclosures



EASTERN OKLAHOMA STATE COLLEGE

1301 W. Main, Wilburton, Oklahoma 74578 (918) 485-2361

A short time ago, you were mailed a packet of materials which you were asked to complete and return. We have not yet received your response and we are sending you another packet in the event the packet was misplaced in the mail.

Would you please take time now to respond to the enclosed questionnaire and return it to us in the enclosed envelope? It should take less than ten minutes of your time.

We sincerely appreciate your interest in the Parks and Nursery Management Program at Eastern Oklahoma State College.

Sincerely,

Daniel Stone, Chairman
Forestry Department
Eastern Oklahoma State College

P.S. If you have already forwarded your response, please disregard this letter.

APPENDIX C

COMMENTS FROM STUDY RESPONDENTS

Graduate Comments

"I work as a salesman in the sporting goods department of J. C. Penny. Even though it is not Parks and Nursery the way I wanted, my education did help me get the job. So I am really happy and thankful."

"I highly recommend the Parks and Nursery Management program at EOSC and I enjoyed my time with the department. I think surveying is very important, but I think the teacher was consistently talking above the student's heads."

I think the Parks and Nursery Program is a good thing to have at Eastern. They should keep it there for a long time for other students to major in."

"I feel the program is not promoted enough to the Tech schools and high schools, especially in central Oklahoma. I also feel the students should be exposed to employers more. I am willing to help in any way I can."

"You should have a seminar for your students explaining the state merit system, federal registrars, interviewing techniques, politics, and low pay. Preparation should not only be education but patience and perseverance."

Employer Comments

"We need employees trained in the basics of technical horticulture, including entomology, and plant diseases."

"We feel construction is another field to be included."

"Our employees need to be able to identify plants, diseases, and insects that are common to Oklahoma. They need to be able to talk to customers and help them. They need a working knowledge of salesmanship."

VITA

Daniel Thomas Stone

Candidate for the Degree of

Master of Science

Thesis: AN ASSESSMENT OF THE PARKS AND NURSERY MANAGEMENT TECHNICIAN
PROGRAM AT EASTERN OKLAHOMA STATE COLLEGE

Major Field: Agricultural Education

Biographical:

Personal Data: Born at Webbers Falls, Oklahoma, October 5, 1949,
the son of Enoch and Francis Stone.

Education: Graduated from Webbers Falls High School, Webber Falls,
Oklahoma in May, 1967; attended Conners State College at
Warner, Oklahoma, from 1967 to 1969; attended Oklahoma State
University at Stillwater, Oklahoma, from 1969 to 1971;
received a Bachelor of Science degree in Agricultural Educa-
tion in May, 1971; attended the University of Georgia
in 1972 studying the Agriculture Education system of the
State of Georgia; completed the Master of Science degree,
with a major in Agriculture in May, 1977 at Oklahoma State
University, Stillwater, Oklahoma.

Professional Experience: Vocational Agriculture Teacher, teaching
two years for Stewart County Public Schools in Richland,
Georgia (1971-1972); one year for the Macon County Public
Schools in Montezuma, Georgia (1973), 11 years for the
Broken Arrow Public Schools in Broken Arrow, Oklahoma (1974-
1985); Horticulture and Forestry Instructor for Eastern
Oklahoma State College from 1985 to present.