# A FOLLOW-UP EVALUATION OF THE FOREST PARK MANAGEMENT TECHNICIAN PROGRAM AT EASTERN OKLAHOMA STATE COLLEGE

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# CHAPTER I

## INTRODUCTION

Though the people of North America make extensive use of forest products, the majority of them come in direct contact with the forest only through its recreational aspect. Each year well over 100 million people obtain inspiration, relaxation and adventure through access to land, water, trees, grass, and wildlife. These recreationists include:

1. picknickers,
2. campers,
3. wilderness travelers,
4. nature photographers,
5. sight-seers,
6. bird watchers,
7. canoests,
8. mountain climbers,
9. skiers,
10. hunters,
11. fishermen, and
12. water-sport enthusiasts.

At one time or another, everyone may be a wild-land recreationist.

Allocating land for recreation is primarily a government function. "The management of large tracts of land for outdoor recreation is seldom a profitable venture and is thus impractical for most private concerns

to undertake" (Allen and Sharp, 1960, p. 299). Because many government agencies, from municipal to federal, control large areas of wild land for various purposes, the task of administering parts of them for recreation is naturally theirs.

> No less than nine government agencies are directly concerned with some phase of wild-land recreation. Some agencies serve in an advisory capacity while others conduct recreation programs on the lands administered by them. Only the National Park Service is maintained for the sole purpose of public recreation. The others, including the U.S. Forest Service which manages the national forest, provide recreation as one phase of their program. The other important agencies in which foresters are employed are the following: the Bureau of Reclamation, the Bureau of Land Management, the Bureau of Indian Affairs, and the Fish and Wildlife Service; all in the Department of the Interior and offer recreation in some form. The Corps of Engineers in the Department of the Army, the Air Force, and the Tennessee Valley Authority should also be listed here (Allen and Sharp, 1960, p. 300).

## Historical Perspective

Eastern Oklahoma State College began its Forest Technician Program in the fall of 1968 and has since expanded the program into three options: Timber Management (1968), Park Management (1971), and Aboriculture (1973). The later programs were initiated due to:

1. The increasing awareness of the importance and value of the nation's forest resources.
2. The increase in the requirements for skilled technicians to assist professional foresters.
3. The increased recreational use and potential of forests caused by population growth.

Because of a manpower shortage in all areas of the outdoor recreation career field, many jobs with excellent advancement potential are available at all entry levels. Therefore, those responsible for their

training must be aware of the changing needs of the forest resource managers. Communication with these resource managers must be effective in order to facilitate any curriculum modification necessary to provide forest technicians with the proper skills and knowledge essential to their performance on the job.

## Statement of Problem

There has been a growing concern among foresters about the present and future manpower needs for the management and efficient use of forest lands and other natural resources. One of the ways society has attempted to respond to these needs is through forestry technician training programs. (Eastern Oklahoma State College at Wilburton, Oklahoma, presently offers such a program. However, to date, relatively little has been done to evaluate the extent to which both employers and graduates perceive the adequacy of the formal training received by graduates.)

Problem statement

## Purpose

The purpose of this research is first to determine the perception of employers and graduates as to the importance and adequacy of training received by graduates of the Forest Park Management Program at Eastern Oklahoma State College at Wilburton, Oklahoma; and second to ascertain the relationship between graduate and employer perception.

## Research Questions

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

1. What are the graduates' perceptions of the importance of the selected skill areas to their present job?
   a. Do graduates see a need for further training after graduation in any of the selected skill areas?
2. What are the employers' perceptions of the importance of the selected skill areas to the graduates present job?
   a. Do employers see a need for further training for the graduates in any of the selected skill areas?
3. How do employer and graduate perceptions compare in the selected skill areas?
4. How do employers' and graduates' perceptions compare regarding the need for further training in the selected skill areas?
5. What is the order of importance of the selected skill areas according to the graduate?
6. What is the order of importance of the selected skill areas from the employers' viewpoint?
7. What are the graduates' perceptions of their own skills in the selected skill areas?
8. What are the employers' perception of the graduates' skills in the selected skill areas?
9. How do employers' and graduates' perceptions compare with regard to the graduates' skills in the selected areas?
10. At what level of education or training do graduates feel they learned most about each of the selected skill areas?
11. How do employers compare Eastern Oklahoma State College Forest Park Management technician graduates with other entry level forest technicians who have received their training from other institutions?

## Need for the Study

Although the principles of forestry have been known for over 60 years in the United States, it has only recently become evident that forestry is experiencing the same technological growth as other fields. As forest land management practices change, the curriculum should be modified to provide competent job-entry level forest technicians upon graduation.

Technical education differs slightly from those curricula offerings designated as general education. In technical education it is not sufficient to simply give an individual instruction in a particular area and then test him to determine whether or not he has mastered the material to a sufficient degree to answer the final examination questions. In fact, many curriculum specialists have begun to indicate that it is necessary for those in vocational education to go one step further, that step being to follow those students after graduation to ascertain whether or not they have been properly trained for the type of employment they accept. In order to gain this information it is necessary, according to Mager (1967), to go directly to the employer to determine the effectiveness of our technical education program.

> There is good reason to keep checking on the appropriateness of objectives. Jobs change, and sometimes they change rapidly. Computer programming, for example, is a course that needs revision almost monthly if it is to keep up with the world. New tools become available, new techniques are introduced, new information must be mastered and new environments appear. The vocational educator, probably more than anyone else, is painfully aware of the ways in which jobs change. And for this reason, he needs to make periodic checks on the relevance of his course objectives (Mager, 1967, p. 71).

In the broadest sense, the curriculum has its source in the interaction of the individual and the world in which he lives. The past, the

present, and the future are all caught up in this interaction. Finally, from this statement, as well as those above, the conclusion can be drawn that it is necessary, if technical educators are to effectively and objectively evaluate vocational curricula offerings, to go beyond the final examination at the end of the course in order to gain the information necessary to improve and update technical curricula offerings.

## Scope of the Population

The population in this study was restricted to Park Management technician graduates, who were enrolled in the Park Management Program at Eastern Oklahoma State College from 1971 to 1979 and their employers. Graduates and their employers of the Timber Management and Aboriculture Programs will not be included in this study. Bill Albright (1976), Head of the Forestry Department at Eastern Oklahoma State College at Wilburton, Oklahoma, conducted a study of the Timber Management Program as a partial fulfillment of the requirements for the degree of Master of Science in December.

## Definitions of Terms

To avoid possible misinterpretation, some terms used in this study are defined:

Wild Lands--it may be neglected altogether or maintained for such purposes as wood or forage production, wildlife, recreation, or protective plant cover.

Forest Resource Manager--that branch of forestry concerned with the over-all administrative, economic, legal and social aspects; and with the essentially scientific and technical aspects, especially

silviculture, protection and forest relation.

Population--in this study it was restricted to Park Management technician graduates from Eastern Oklahoma State College at Wilburton, Oklahoma.

Leisure Career Field, or Recreation--the leisure career field encompasses those occupations pursued by persons engaged in performing the functions required to meet the needs of persons engaged in leisure time pursuits.

Opinion--for the purpose of this paper an opinion is an expression of an attitude whether verbal, written, or nonverbal.

Attitude--an emotional tendency, organized through experience, to react positively or negatively toward any object.

Perception--is an awareness on the part of the individual of his attitude toward a condition, event, a training activity or person.

Professional Forester--those with a Bachelor of Science degree or higher generally in the field of forestry.

All definitions pertaining to forestry were synthesized from the Society of American Foresters Terminology, Series No. 1, 1971.

# CHAPTER II

# REVIEW OF LITERATURE

## Introduction

The purpose of this research is first to determine the perception of employers and graduates as to the importance and adequacy of training received by the graduates of the Forest Park Management Program at Eastern Oklahoma State College (E.O.S.C.) at Wilburton, Oklahoma. Secondly, to ascertain the relationship between employer and graduate perceptions.

For the purpose of this study, the review of literature is subdivided into five basic sections as follows:

1. attitude,
2. education in outdoor recreation,
3. curriculum evaluation,
4. follow-up, and
5. summary.

## Attitudes and Their Measurements

Attitudes are in peoples' minds rather than in the objects themselves. Hence, when looking at the same object everyone does not "see" the same thing. A layman may view chairs as solid objects; a physicist may view them as unstable, moving clusters of atoms. One person, moreover, may see the same object in different ways at different times. One

may look at a drawing of a cube, for example, and see it as an open box at one moment, a solid cube of ice at another time, and a square wire frame at a later date. The drawing does not change, but the observer's organization of what he sees does. Therefore, in this study when working with perceptions or opinions, the reader must realize we are dealing with attitudes.

There are many different definitions of the word attitude. In fact, the term denotes a concept so nebulous in its abstraction that it would appear beneficial if we examined it here.

Vicars (1970, p. 9) defines attitude as, ". . . the sum total of man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears and threats, and convictions about any specific topic."

McNemar (1946), in defining attitudes states:

> The common element of most definitions of social attitudes is that such an attitude is a readiness or tendency to act or react in a certain manner. No one has ever seen an attitude. An attitude, however real it is to its possessor, is an abstraction, the existence of which is inferred, either from non-verbal, overt behavior or beral and symbolic behavior (p. 289).

Quite often, an author has a tendency to treat the terms opinion, sentiment, and attitudes as though they refer to basically the same phenomenon. Thurston (1967) theorized that an opinion is a verbal expression of an attitude. Unfortunately, it is impossible to see an attitude as a concrete, definable object. However, even though they are not visible, they do, in fact, exist and according to many researchers, they can be measured. The two most common methods of securing data concerning attitudes are the interview and the questionnaire.

Albright (1976) suggests that the questionnaire is especially

useful in descriptive-survey, an instrument used in securing information from widely scattered sources when it is not practical or possible to see the respondents personally.

In summary, then, the review of literature concerning attitudes indicates that:

1. Attitudes can be defined.
2. Opinions are considered to be the verbalizational aspect of attitudes and can be measured.
3. The questionnaire is considered to be an acceptable method of collecting data about attitudes.

## Education in Outdoor Recreation

Verhoven and Vinton (1972, p. 1) state: "Recreation or the leisure career field encompasses those occupations pursued by persons engaged in performing the functions required to meet the needs of persons engaged in leisure time pursuits."

Verhoven and Vinton (1972) also point out:

> During recent years, career education has emerged as a major theme in American education. Based on the assumption that present approaches are failing to meet the needs of our rapidly changing society, career education is designed to prepare all students with stable occupational skills which will enable them to gain employment in occupations of their choice upon leaving school.
>
> There are numerous approaches or models which are being developed to implement career education programs. Each model has variations determined by local circumstances and particular needs. Perhaps the most widely used approach is the Comprehensive Career Education Model (p. iii).

This is a school based model sequenced in four levels or phases: (1) career awareness, (2) career exploration, (3) career orientation, and (4) skill development.

As approaches or models were initially conceived, the field of Recreation, Hospitality and Tourism (RHT) was identified as one of fifteen major career families. Later, the RHT cluster was defined more broadly by the project staff and their consultant committees as: "Four occupational groups--recreation services, recreation resources, tourism and amusement" (Verhoven and Vinton, 1972, p. 2).

In this study, the author plans to deal mainly with the recreation resource group which includes:

> Jobs related to the planning, development, maintenance, and protection of resources, both natural and man-made, used for leisure-time experiences. These jobs deal primarily with recreational areas, facilities, products, goods and with natural areas. In general, these jobs form a support system for the experience provided by the recreation service group (Verhoven and Vinton, 1972, p. 7).

The occupations of forestry include a wide variety of positions and a rapidly expanding segment of this array is the trained technician. Growth in the numbers of technicians is largely the result of the growth in numbers of the community colleges over the past 20 years offering forest technician education.

The Society of American Foresters has debated membership status for technicians in the past and continues to do so. Recently, the Society's Committee on Educational Policies recommended revised minimum guide lines for use in on-site evaluations for recognition (not accreditation) of technician training programs. Furthermore, "There has always been competition for jobs between technicians and professionals (those with bachelor's degree or higher). In today's market, professionals often take technician jobs" (Coufal, 1977, p. 99). "For example, of the 1977 bachelor of science graduates who found forestry jobs, 13 per cent (218 out of 1,681) took either temporary or permanent work at the technician

level" (Robie, 1978, p. 356).

Coufal (1979) states that:

> Forest Technician Programs have expanded significantly over the past 10 to 15 years. Nonetheless, the number of graduates has not risen anywhere close to the point where there will be three technicians per professional for the near future. Also, employment success for technicians, while at least equal to that of four year graduates, indicates that employers have not yet accepted the concept of some foresters that there should be at least three technicians per professional forester (p. 101).

The most obvious conclusion based on the data reviewed is that both professional and technician graduates are having difficulty in obtaining forestry employment. Industry was clearly the leading employer of technicians in all regions except the Trocy Mountains and the far west where the federal government ranked first. This pattern is similar to what Robie (1978) found for 1977 bachelor graduates.

Coufal (1979) did a survey on a group of 77 schools that offered forest technician programs, of which 69 offered two-year programs and nine had programs of one year or less. His findings were in agreement with Robie (1978).

## Curriculum Evaluation

In choosing a viable concept to serve as a framework for developing career education programs, different modes of curriculum theory and practice must be considered. With the complexity of the problem envisioned, the following statement by Taba (1962, p. 121) seemed the most appropriate basic premise: "No program, no matter how thorough can teach everything; the task of all education is to cause a maximum amount of transfer. The curriculum must always stress those things which promise most transfer, which is taught directly."

The promise of transfer is particularly important to career education. Taba's (1962) premise should serve as a guide in re-examination of educational programs and in re-focusing learning experiences on career education goals.

In order to transfer career education into the existing curriculum, it is necessary to find a mode of curriculum organization into which awareness, exploration, orientation and experience phases of career education can be incorporated. Taba (1962) considers the organization of curriculum as crucial:

> If curriculum is to be a plan for learning, its content and learning experience need to be organized so that they serve the educational objectives. The type of curriculum organization followed is probably one of the most potent factors in determining how learning proceeds. Often the curriculum is ineffective, not because its content is inadequate, but because it is put together in a way that makes learning difficult, or because learning experiences are organized in a way that makes learning either less efficient or less productive than it might be. Chaotic content or isolated learning experiences are usually not effective in attaining any important objective (p. 290).

A theory which provides for proper breadth, for desireable sequences, for integrative continuity, and for wholeness of learning must be thought out carefully in order to properly organize the curriculum. Functional competence in a broad field such as forest technology, has at least three components around which the curriculum must be structured:

1. The training should prepare the graduate to take an entry level job in which he will be productive.
2. The broad technical training together with a reasonable amount of experience should enable the graduate to have adequate horizontal and vertical mobility within his or her field of expertise.

3. The foundation provided by the training should be broad enough to enable the graduate to do further study within his or her field of technology.

A two-year technology program has certain unique requirements that influence the content and organization of the curriculum. Some of these requirements are imposed by the occupational function that graduates must be prepared to perform; some result from the need for special courses that will maximize the effectiveness of teachers who have special competencies, and others arise because of the need to teach both technical principles and related practical applications in the limited time available. The forest technology curriculum reflects three basic requirements:

1. Functional utility.
2. Units of instructions in specialized technical subjects.
3. Provision for the teaching of principles by application (U. S. Office of Education, 1968, p. 26).

The sequence of the courses in a two-year technical curriculum is as important as the content of the courses if the limited time available to it be used to full effectiveness. In general, the subject matter in the curriculum is carefully coordinated in groups of concurrent courses which are arranged to blend smoothly from one group of courses into the next, thus carrying the student to a deeper understanding of basic principles while broadening his or her scope of understanding.

> The relationship between laboratory time and class lecture or theoretical study time is of extreme importance in a technical education curriculum. All of the theory, skills, techniques, applied principles, materials, knowledge, process and understanding needed by the technician could be taught in the field or laboratory without separate and organized theoretical classes (U.S. Office of Education, 1968, p. 26).

In the final phases of the two-year program, the standards of

reporting should approach those required by forestry organizations. At the same time, instructors should encourage individual style and initiative by allowing as much freedom as possible in reporting, consistent with established scholastic standards. Not all reports should be of a type which requires a large number of hours for preparation. The judicious use of informal as well as formal reporting allows training in both forms, introduces the realism encountered in employment, and limits the time required for writing formal reports to a reasonable portion of the student's time.

## Follow-Up

When the need for a follow-up evaluation is considered, the question arises concerning the method of gathering information and its purpose; Hodges (1973) states that:

> Gathering of information with which to make an adequate evaluation is and always will be a major problem facing Vocational Education. One possible method of staying current with industry and also providing a program that will benefit a community is a follow-up program (p. 15).

Vicars (1972) points out that follow-up studies can provide pertinent information about motivational factors, assessment of training received and an assessment of performance on the job.

One follow-up study conducted by Albright (1976) entitled, "An Assessment of the Forest Timber Management Technician Program at Eastern Oklahoma State College," (E.O.S.C.) analyzes the program to determine strengths or improvement needs. Eleven major skill areas were used in the evaluation. These 11 major skill areas were determined by courses and terms with which the respondents would be familiar.

The graduate respondents were asked to determine the importance of

the 11 skill areas to their present job and to state whether or not they received sufficient instruction in those areas. The employers were asked to determine the importance of the 11 skill areas to the graduates' present job, to evaluate the graduates' ability in those same areas, to compare the graduate with other entry level forest technicians who were trained elsewhere, and to state whether the graduate should receive more instruction in the 11 skill areas. Background data collected included: employment status, job titles, other jobs held, and the educational level attained by the graduates.

Graduates and employers expressed deficiencies in the communication and personnel management skill areas. However, the E.O.S.C. graduates' overall ability to perform the skills compared with forest technicians receiving their training elsewhere was ranked above average by the employers.

Based on the findings, Albright (1976) suggests the following recommendations:

1. That further studies of a similar nature of conducted periodically by the Eastern Oklahoma State College Forestry Department to evaluate the program's effectiveness as related to the graduates' ability to perform on the job.
2. That personnel management and communication skills be more effectively taught at Eastern Oklahoma State College (p. 37).

Hodges, Vicars and Albright all agree that follow-up programs on the results obtained from training programs can be used to provide needed feedback to those responsible for curriculum relevance. Furthermore, teachers should conduct student evaluations and follow-ups of students employed in the field and their employers to determine any needed curriculum modifications.

## Summary

In summary, then, an examination of attitudes, opinions and their measurements reveals the following: attitudes do exist, and they can be measured. The questionnaire is an acceptable method of data collecting. Further, in examining the question of curriculum evaluation, it is not sufficient to test a student to ascertain whether or not he has learned the information presented in the class. Technical educators must be beyond the final examination to the ultimate consumer of our educational product, the public, as represented by the employer. This is necessary if technical educators are to keep vocational education current and effective.

The demand for quality education by the public can be answered in part by the gathering of information about the preparation of students in post-secondary or vocational technical school and comparing this information with actual technical job-related requirements.

# CHAPTER III

# METHODOLOGY

The purpose of this research is basically twofold, first to determine the perception of employers and graduates as to the importance and adequacy of training received by graduates of the Forest Park Management Program at Eastern Oklahoma State College at Wilburton, Oklahoma, and secondly to ascertain the relationship between employer and graduate perceptions.

## Population

The population in this study was restricted to the 48 Park Management Technician graduates who were enrolled in the Park Management Program at Eastern Oklahoma State College from 1970 to 1979 and their employers. Graduates of the Timber Management and Aboriculture programs and their employers will not be included in this study.

## Methodology

In order to follow through with this investigation, it was decided that because of the number of persons involved, the geographic area to be covered, and the limitation of time, that a mailed questionnaire would be the most effective method of data collection.

> The direct contact with subjects involved is time consuming and expensive. Much of the same information can be gathered by means of a written questionnaire presented to

> the subjects. Compared with interviewing, the written questionnaire is typically more efficient and practical, and allows for the use of a larger sample. It is widely employed in educational research (Ary, Jacobs and Razavieh, 1972, p. 169).

The following guidelines for construction of a questionnaire were synthesized by Hodges (1973) to insure a systematic presentation:

> 1. The questions should be stated simply and clearly in words commonly used by the respondents; they must be relevant and meaningful; the category to be checked should cover the full range of answers the respondent can give to the questions.
> 2. The position of a question in relation to the other questions frequently affects the responses.
> 3. Questions should be worded so that it will not be easier for the respondent to answer one way than another.
> 4. Whenever possible, a simple and convenient response system should be used.
> 5. It may be advisable to encourage the respondent to supply additional information not adequately tapped or specified by the questionnaire because adhering to the categories or alternatives of a rigidly structured questionnaire may prove frustrating to some respondents. A final question may be provided at the end of the questionnaire or at the end of a specific section which invites the respondent to discuss any problem that is important to him (p. 19).

## Development of the Questionnaire

The instrument utilized was a modification of one developed by Vicar (1972), who adapted it from a much larger instrument used by the Project Able (1971) study conducted in Quincy, Massachusetts. Both Project Able and Vicar's instruments were reported as being successful in achieving results and were used in evaluating the curriculums in two different institutions.

The instrument in this study utilized the following 12 skill areas which were identified by the forestry teaching faculty at Eastern Oklahoma State College at Wilburton, Oklahoma, to be representative of the objectives of the Forest Park Management Program:

1. communication skills,
2. conservation of natural resources,
3. dendrology,
4. forest protection,
5. mathetmatics,
6. plant materials and landscape,
7. surveying,
8. multiple use and conservation,
9. public relations,
10. personnel management,
11. parks management and outdoor recreation, and
12. interpretative recreation services.

These 12 skill areas were rated across three, five-point Likert-type scales and a Yes-No item. The following points were covered for the employer:

1. concerning the importance of the skill to the job (Likert),
2. evaluation of the graduate on each skill (Likert),
3. comparing the graduate on each skill with other entry level workers (Likert),
4. determining whether or not the graduate needed additional training in any of the 12 skill areas (Yes-No).

The graduates rated themselves across three, five-point Likert-type scales and a Yes-No item:

1. importance of the skill for his job (Likert),
2. a self evaluation on that particular skill (Likert),
3. where the greatest amount of the skill was learned (Likert),
4. did the graduate feel a need for additional training in any of the 12 skill areas (Yes-No)?

Additional information was solicited from the graduate about specific aspects of his training while at Eastern Oklahoma State College, Wilburton, Oklahoma. This material was not utilized in the study, although it provided information which was of importance to the Eastern Oklahoma State College Forestry Department. On each questionnaire an additional open-ended item was included to allow respondents to make any comments they felt were necessary.

At this stage in their development, the questionnaires were reviewed by members of the Eastern Oklahoma State College Forestry to determine if they would elicit the desired information. It was the Forestry Department staff's opinion that sufficient information could be gathered by the questionnaire to begin the assessment of the Forest Park Management Program.

Two cover letters (Appendix A) were used in transmitting the questionnaires (Appendix B). Both were from Dr. Jesse Mitchell, the Director of Agricultural Services at Eastern Oklahoma State College. One was sent to the employer stressing the importance of this study to the institution and future students. A second, more personal one, was sent to the graduate and included instructions to the former student concerning his questionnaire. The employers questionnaire was also sent to the graduate and he was requested to deliver it to the employer. The graduate was further requested to encourage the employer to return it as soon as possible. Both questionnaires with self-addressed, stamped envelopes included, were sent by regular mail.

One of the difficulties in mailing questionnaires is the often low percentage of returns. As stated by Donald (1960), however:

> Analysis of response according to the number of stimuli required to induce return of the questionnaire indicates a

> significant relationship between response elicitation and member involvement. The higher involvement in terms of active participation, knowledge and understanding of the organization and loyalty to it, the fewer the stimuli required to induce a response (p. 101).

It was hoped, therefore, that due to the involvement of the institution and understanding most of the former students and their employers have with the Forest Park Management Program at Eastern Oklahoma State College, the returns would be high.

Twenty-one days after the initial mailing, a follow-up letter was mailed to the non-respondents. The letter tactfully asked them if they had misplaced the questionnaire and reminded them of its importance. A second follow-up letter was mailed 10 days later which again stressed the importance of each response to the validity of the study. Enclosed with the second follow-up letter were copies of both questionnaires and stamped, self-addressed envelopes for their return. Due to the fact that only six of the questionnaires were returned, it was deemed necessary to contact the non-respondents by phone. An additional 18 responses were then received.

Throughout the development of the instrument, there were consultations with various faculty members at Oklahoma State University. After completion of the questionnaire, they were presented to the research design class (AGED 5980) at Oklahoma State University. This class consisted of Master's and doctoral students who were involved in research studies of their own. It was their opinion that the questionnaire would gather the desired information.

## Statistical Procedure

All data collected was separated into several groups according to

current status of employment. In addition, respondents were paired: graduates to respective employer by a coded number in order to facilitate collation between pairs individually, and collectively.

On all data colleted, frequency distribution, mean, median and percentage were established.

The absolute scale values used to interpret the five-point Likert-type scales were: 1 (1.0-1.49), 2 (1.50-2.49), 3 (2.50-3.49), 4 (3.50-4.49), and 5 (4.50-5.00).

# CHAPTER IV

## PRESENTATION AND ANALYSIS OF DATA

The purpose of this research is first to determine the perception of employers and graduates as to the importance and adequacy of training received by the graduates of the Forest Park Management Program at Eastern Oklahoma State College at Wilburton, Oklahoma. Secondly, to ascertain the relationship between employers and graduate perceptions.

The purpose of this chapter is to present and analyze the data collected in this study relating to the 11 research questions presented in Chapter I.

A mail questionnaire was developed in two forms: one for the former students of the Forest Park Management Program at Eastern Oklahoma State College and the second for the employers of these former students. The importance of the skills to the job and the need for further training, an evaluation of the student on each skill and the need for further training were common to both forms. The students were further asked to indicate where they learned the most about each skill. The employers were asked to compare these former students to other entry level workers in reference to the 12 skill areas. Additional items were included for use by the Eastern Oklahoma State College Forestry Department Staff. Copies of both questionnaires are included in Appendix B.

An additional open-ended item was included to allow the respondents to expand on responses made earlier in the questionnaire if they desired

to do so. As the returns were examined, they provided data regarding the research questions stated in Chapter I. The data will be presented in three sections: first, a description of the population; the second, a discussion of the data as it affects the research questions; and third, a summary of the employer and employee comments.

## Description of Population and Return

The population in this study was restricted to the 48 Park Management Technician Graduates who were enrolled in the Park Management Program at Eastern Oklahoma State College from 1970 to 1979 and their employers. Table I shows the distribution of the population and the returns.

Twenty-four of the 48 graduates of the Forest Park Management Program at Eastern Oklahoma State College responded to the survey. Nine of the 19 employers responded. The response rate was 50% for the graduate and 47.4% for their employers. The close similarity of the breakdown of the population and return is an indication that the return is not unduly biased by the disproportional return of any one group and is representative of the population.

Table II shows the distribution of the graduate return in regard to current status of the graduates, i.e., continuing education, Forestry, self-employed, full-time, non-forestry, or unemployed.

Ten graduates comprising 41.6% of the total group indicated that they were working in areas related to their preparation.

An examination of the data presented in Table II indicates that 16.7% of the graduates were continuing their education.

Ten graduates comprising 41.6% indicated that they were working in

TABLE I

DISTRIBUTION OF POPULATION AND RETURN

| | Former Students | | Employers | |
|---|---|---|---|---|
| | No. | % | No. | % |
| Total N | 48 | | 19 | |
| Returns | 24 | 50.0 | 9 | 47.4 |
| Non-Respondents | 24 | | 10 | |
| Total Return | 24 | 50.0 | 9 | 47.4 |

TABLE II

DISTRIBUTION OF STUDY RESPONDENTS
BY EMPLOYMENT STATUS

| Employment Status Category | Number of Respondents | Percentage |
|---|---|---|
| Continuing Education | 4 | 16.7 |
| Forestry | 10 | 41.6 |
| Self-Employed | 3 | 12.5 |
| Full-Time Non-Forestry | 6 | 25.0 |
| Unemployed | 1 | 4.2 |
| Total | 24 | 100.0 |

areas related to their preparation.

Three persons, representing 12.5% of the graduates were self-employed.

Six graduates comprising 25% of the total number indicated that they were working in areas not related to their preparation.

Graduates were further divided into job title categories of administrative, middle management, and laborer to indicate a level of job achievement. Table III indicates that 62.5% of the graduates were employed in the administrative or mid-management category. The 16.7% employed as laborers were individuals that gradutated in the spring of 1979 and were in an on-the-job training program before being advanced into a middle management position.

## Research Questions

### Research Question 1

How do graduates perceive the importance of the 12 skill areas to their work. And secondly, do they perceive a need for further training in the 12 skill areas?

Responses to this question were treated two ways. First by reviewing the number of responses made by graduates in regard to each of the 12 skill areas across the five-point Likert-type scale employed. This was done both by number of individuals giving a specific response and by percentage of the total response to that particular skill area. Second, the means of all responses were computed and the 12 skill areas rank ordered in descending order of perceived importance of skill to the job. Table IV shows the number of responses for each category, the mean percentage of the total response to each skill area, the mean score for

TABLE III

DISTRIBUTION OF STUDY RESPONDENTS
BY JOB TITLE

| Employment Status Category | Number of Respondents | Percentage |
|---|---|---|
| Student | 4 | 16.7 |
| Administration | 5 | 20.8 |
| Middle Management | 10 | 41.6 |
| Laborer | 4 | 16.7 |
| Unemployed | 1 | 4.2 |
| Total | 24 | 100.0 |

TABLE IV

DISTRIBUTION OF FORMER STUDENTS REGARDING THE IMPORTANCE OF THE TWELVE SKILL AREAS TO THE JOB

| Skill Area | How Important Is This Skill For Your Present Job? | | | | | | | | | | Mean Score | Rank Order |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Of No Real Importance 1 | | Of Some Importance 2 | | Of Considerable Importance 3 | | Of Major Importance 4 | | Of Critical Importance 5 | | | |
| | N | % | N | % | N | % | N | % | N | % | | |
| Communication Skills | 1 | 4.2 | 4 | 20.0 | 7 | 29.2 | 5 | 20.8 | 7 | 29.2 | 3.54 | 1.0 |
| Mathematical Skills | 3 | 12.5 | 7 | 29.2 | 5 | 20.9 | 6 | 28.5 | 3 | 12.5 | 2.96 | 3.0 |
| Dendrology | 6 | 25.0 | 4 | 16.7 | 4 | 16.7 | 8 | 33.3 | 2 | 8.3 | 2.83 | 5.5 |
| Plant Materials, Landscaping | 12 | 50.0 | 4 | 16.7 | 1 | 4.2 | 5 | 20.8 | 2 | 8.3 | 2.83 | 5.5 |
| Surveying | 6 | 20.8 | 9 | 37.5 | 5 | 20.8 | 2 | 8.3 | 3 | 12.5 | 2.83 | 5.5 |
| Public Relations | 6 | 25.0 | 6 | 25.0 | 4 | 16.7 | 2 | 8.3 | 6 | 25.0 | 2.83 | 5.5 |
| Park Management | 13 | 54.2 | 2 | 8.3 | 5 | 20.8 | 1 | 4.2 | 3 | 12.5 | 2.13 | 11.0 |
| Interpretive Recreation | 13 | 54.2 | 1 | 4.2 | 6 | 25.0 | 0 | 0.0 | 4 | 16.7 | 1.79 | 12.0 |
| Personnel Management | 6 | 25.0 | 3 | 12.5 | 5 | 20.8 | 3 | 12.5 | 7 | 29.2 | 3.08 | 2.0 |
| Forest Protection | 7 | 29.2 | 5 | 20.8 | 5 | 20.8 | 6 | 25.0 | 1 | 4.2 | 2.54 | 10.0 |
| Forest Multiple Use | 4 | 16.7 | 8 | 33.3 | 5 | 20.8 | 5 | 20.8 | 2 | 8.3 | 2.71 | 9.0 |
| Conservation of Resources | 5 | 20.8 | 7 | 29.2 | 4 | 16.7 | 5 | 20.8 | 3 | 12.5 | 2.75 | 8.0 |

each skill area and its rank of order of importance to the job. Table V shows perceptions of graduates regarding the need for additional training in each of the 12 skill areas.

For the purpose of discussion and in order to show direction, the first two categories of response: "Of No Real Importance" and "Of Some Importance" were collapsed into a single category of less than average. The middle response "Of Considerable Importance" will be referred to as "Of Average Importance," and the two upper categories of response: "Of Major Importance" and "Of Critical Importance" were collapsed into a single category of "Above Average Importance."

In the area of communication skills, 5 graduates (24.2%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 7 graduates (29.2%) and 12 graduates (50.0%) indicated a perception of above average importance to the job. The mean score derived was 3.54. Communication skills were ranked first in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 12 graduates (50.0%) indicated that they perceived a need for further training, while 12 graduates (50.0%) indicated that they did not perceive a need for further training.

In the area of mathematical skills, 10 graduates (41.7%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 5 graduates (20.9%) and 9 graduates (41.0%) indicated a perception of above average importance to the job. The mean score derived was 2.96. Mathematical skills were ranked third in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 17 graduates

TABLE V

PERCEPTIONS OF FORMER STUDENTS REGARDING NEED FOR FURTHER TRAINING

| Skill Areas | Do You Feel You Need Further Training? | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | N | % | N | % |
| Communication Skills | 12 | 50.0 | 12 | 50.0 |
| Mathematical Skills | 17 | 70.8 | 7 | 29.2 |
| Dendrology | 11 | 45.8 | 13 | 54.2 |
| Plant Materials and Landscaping | 8 | 33.3 | 16 | 66.7 |
| Surveying | 14 | 58.3 | 10 | 41.7 |
| Public Relations | 11 | 45.8 | 13 | 54.2 |
| Park Management | 9 | 37.5 | 15 | 62.5 |
| Interpretative Recreation | 14 | 58.3 | 10 | 41.7 |
| Personnel Management | 17 | 70.8 | 7 | 29.2 |
| Forest Protection | 13 | 54.2 | 11 | 45.8 |
| Forest Multiple Use | 10 | 41.7 | 14 | 58.3 |
| Conservation of Resources | 10 | 41.7 | 14 | 58.3 |

(70.8%) indicated that they did not perceive a need for further training.

In the area of dendrology, 10 graduates (41.7%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 4 graduated (16.7%) and 10 graduates (41.6%) indicated a perception of above average importance to the job. The mean score derived was 2.83. Dendrology skills were ranked 5.5 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 11 graduates (45.8%) indicated that they perceived a need for further training while 13 graduates (54.1%) indicated that they did not perceive a need for further training.

In the area of plant materials and landscaping skills, 16 graduates (66.7%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 1 graduate (4.2%) and 7 graduates (29.1%) indicated a perception of above average importance to the job. The mean score derived was 2.83. Plant materials and landscaping skills were ranked 5.5 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 8 graduated (33.3%) indicated that they perceived a need for further training, while 16 graduates (66.7%) indicated that they did not perceive a need for further training.

In the area of surveying skills, 15 graduates (58.3%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 5 graduates (20.8%), and 5 graduates (20.8%) indicated a perception of above average importance to the job. In regard to the question: "Do You Need Further Training

In This Skill?", 14 graduates (58.3%) indicated that they perceived a need for further training while 10 graduates (41.7%) indicated that they did not perceive a need for further training.

In the area of public relations skills, 12 graduates (50.0%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 4 graduates (16.7%) and 8 graduates (33.3%) indicated a perception of above importance to the job. The mean score derived was 2.83. Public relations skills ranked 5.5 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 11 graduates (45.8%) indicated that they perceived a need for further training, while 13 graduates (54.2%) indicated that they did not perceive a need for further training.

In the area of park management skills, 15 graduates (62.5%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 5 graduates (20.8%) and 4 graduates (16.7%) indicated a perception of above average importance to the job. The mean score derived was 2.13. Park management skills were ranked 11 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 9 graduates (37.5%) indicated that they perceived a need for further training, while 15 graduates (62.5%) indicated that they did not perceive a need for further training.

In the area of interpretative recreation, 14 graduates (54.4%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 6 graduates (25.0%) and 4 graduates (16.7%) indicated a perception of above average

importance to the job. The mean score derived was 1.79. Interpretative recreation was ranked 12 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 14 graduates (58.3%) indicated that they perceived a need for further training.

In the area of personnel management skills, 9 graduates (37.5%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 5 graduates (20.8%) and 10 graduates (41.7%) indicated a perception of above average importance to the job. The mean score derived was 3.08. Personnel management skills were ranked second in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 17 graduates (70.8%) indicated that they perceived a need for further training, while 7 graduates (29.2%) indicated that they did not perceive a need for further training.

In the area of forest protection skills, 12 graduates (50.0%) indicated a perception of less than average importance to the job. A perception of above average importance to the job was indicated by 5 graduates (20.8%) and 7 graduates (29.2%) indicated a perception of above average importance to the job. The mean score derived was 2.54. Forest protection skills were ranked 10 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skills?", 13 graduates (54.2%) indicated that they perceived a need for further training, while 11 graduates (45.8%) indicated that they did not perceive a need for further training.

In the area of forest multiple use skills, 12 graduates (50.0%) indicated a perception of less than average importance to the job. A

perception of average importance to the job was indicated by 5 graduates (20.8%) and 7 graduates (29.1%) indicated a perception of above average importance to the job. The mean score derived was 2.71. Forest multiple use skills were ranked 9 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill Area?", 10 graduates (41.7%) indicated that they perceived a need for further training, while 14 graduates (58.3%) indicated that they did not perceive a need for further training.

In the area of conservation of resources, 12 graduates (50.0%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 4 graduates (16.7%) and 8 graduates (33.3%) indicated a perception of above average importance to the job. The mean score derived was 2.75. Conservation of resources was ranked 8 in order of importance to the job. In regard to the question: "Do You Need Further Training In This Skill?", 10 graduates (41.7%) indicated that they perceived a need for further training while 14 graduates (58.3%) indicated that they did not perceive a need for further training.

Research Question 2

First, how do employers perceive the importance of the 12 skill areas to the job and do they perceive a need for further training in the 12 skill areas?

Responses to this question were examined in two ways. First by reviewing the number of responses made by employers in regard to each of the 12 skill areas across the five-point Likert-type scale employed. This was done both by number of individuals giving a specific response

and by percentage of the total response to that particular skill area. Second, the means of all responses were computed and the 12 skill areas rank ordered in descending order of perceived importance of the skill to the job. Table VI shows the number of responses for each category, the percentage of the total responses for each category, the percentage of the total response to each skill area, the mean score for each skill area and its rank order of importance to the job. Table VII shows perceptions by employers regarding the need for further training in each of the 12 skill areas.

For the purposes of discussion and in order to show direction, the first two categories of response: "Of No Importance" and "Of Some Importance," were collapsed into a single category of less than average importance. The middle response: "Of Considerable Importance" will be referred to as: "Of Average Importance," and the two upper categories of response: "Of Major Importance" and "Of Critical Importance" were collapsed into a single category of above average importance.

In the area of communication skills, 3 employers (33.3%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 1 employer (11.1%) and 5 employers (55.5%) indicated a perception of above average importance to the job. The mean score derived was 3.11. Comunication skills were ranked 3 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 5 employers (55.5%) indicated that they perceived a need for further training, while 4 employers (44.4%) indicated that they did not perceive a need for further training.

In the area of mathematical skills, 1 employer (11.1%) indicated

TABLE VI

DISTRIBUTION OF THE EMPLOYERS REGARDING THE IMPORTANCE OF THE TWELVE SKILL AREAS TO THE JOB

| Skill Area | How Important Is This Skill To His Present Job? | | | | | | | | | | Mean Score | Rank Order |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Of No Real Importance 1 | | Of Some Importance 2 | | Of Considerable Importance 3 | | Of Major Importance 4 | | Of Critical Importance 5 | | | |
| | N | % | N | % | N | % | N | % | N | % | | |
| Communication Skills | 0 | 0.0 | 3 | 33.3 | 1 | 11.1 | 3 | 33.3 | 2 | 22.2 | 3.11 | 3.0 |
| Mathematical Skills | 0 | 0.0 | 1 | 11.1 | 6 | 66.7 | 0 | 0.0 | 2 | 22.2 | 3.33 | 2.5 |
| Dendrology | 2 | 22.2 | 2 | 22.2 | 1 | 11.1 | 2 | 22.2 | 2 | 22.2 | 3.00 | 6.5 |
| Plant Materials, Landscape | 6 | 66.6 | 1 | 11.1 | 2 | 22.2 | 0 | 0.0 | 0 | 0.00 | 1.56 | 12.0 |
| Surveying | 2 | 22.2 | 2 | 22.2 | 2 | 22.2 | 0 | 0.0 | 3 | 33.3 | 3.00 | 6.5 |
| Public Relations | 1 | 11.1 | 3 | 33.3 | 3 | 33.3 | 1 | 11.1 | 1 | 11.1 | 2.78 | 9.5 |
| Park Management | 5 | 55.6 | 1 | 11.1 | 2 | 22.2 | 1 | 11.1 | 0 | 0.0 | 1.89 | 11.0 |
| Interpretative Recreation | 5 | 55.6 | 0 | 0.0 | 2 | 22.2 | 2 | 22.2 | 0 | 0.0 | 4.22 | 1.0 |
| Personnel Management | 0 | 0.0 | 1 | 11.1 | 5 | 55.6 | 2 | 22.2 | 1 | 11.1 | 3.33 | 2.5 |
| Forest Protection | 1 | 11.1 | 1 | 11.1 | 5 | 55.6 | 1 | 11.1 | 1 | 11.1 | 3.00 | 6.5 |
| Forest Multiple Use | 1 | 11.1 | 3 | 33.3 | 1 | 11.1 | 3 | 33.3 | 1 | 11.1 | 3.00 | 6.5 |
| Conservation of Resources | 1 | 11.1 | 3 | 33.3 | 3 | 33.3 | 1 | 11.1 | 1 | 11.1 | 2.78 | 9.5 |

TABLE VII

PERCEPTIONS OF EMPLOYERS OF FORMER STUDENTS REGARDING THE NEED FOR FURTHER TRAINING

| Skill Areas | Do You Feel He Needs Further Training? | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | N | % | N | % |
| Communication Skills | 5 | 55.6 | 4 | 44.4 |
| Mathematical Skills | 4 | 44.4 | 5 | 55.6 |
| Dendrology | 2 | 22.2 | 7 | 77.8 |
| Plant Materials and Landscaping | 2 | 22.2 | 7 | 77.8 |
| Surveying | 3 | 33.3 | 6 | 66.7 |
| Public Relations | 3 | 33.3 | 6 | 66.7 |
| Park Management | 2 | 22.2 | 7 | 77.8 |
| Interpretative Recreation | 2 | 22.2 | 7 | 77.8 |
| Personnel Management | 5 | 55.6 | 4 | 44.4 |
| Forest Protection | 5 | 55.6 | 4 | 44.4 |
| Forest Multiple Use | 4 | 44.4 | 5 | 55.6 |
| Conservation of Resources | 3 | 33.3 | 6 | 66.7 |

a perception of less than average importance to the job. A perception of average importance to the job was indicated by 6 employers (66.7%) and 2 employers (22.2%) indicated a perception of above average importance to the job. The mean score derived was 3.33. Mathematical skills were ranked 2.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 4 employers indicated that they perceived a need for further training, while 5 (55.6%) indicated that they did not perceive need for further training.

In the area of dendrology, 4 employers (44.4%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 1 employer (11.1%) and 4 employers (44.4%) indicated a perception of above average importance to the job. The mean score derived was 3.00. Dendrology was ranked 6.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 2 employers (22.2%) indicated that they perceived a need for further training while 7 employers (77.8%) indicated that they did not perceive a need for further training.

In the area of plant materials and landscaping skills, 7 employers (77.8%) indicated a perception of less than average importance to the job. A perception of average importance was indicated by 2 employers (22.2%) and no employers indicated a perception of above average importance to the job. The mean score derived was 1.56. Plant materials and landscaping skills were ranked 12 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 2 employers (22.2%) indicated that they

perceived a need for further training, while 7 employers (77.8%) indicated that they did not perceive a need for further training.

In the area of surveying skills, 4 employers (44.4%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 2 employers (2.22%) and 3 employers (33.3%) indicated a perception of above average importance to the job. The mean score derived was 3.00. Surveying skills were ranked 6.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skills?", 3 employers (33.3%) indicated that they perceived a need for further training while 6 employers (66.7%) indicated tha they did not perceive a need for further training.

In the area of public relations skills, 4 employers (44.4%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 3 employers (33.3%) and 2 employers (22.2%) indicated a perception of above average importance to the job. The means score derived was 2.78. Public relations skills were ranked 9.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 3 employers (33.3%) indicated that they perceived a need for further training while 6 employers (66.6%) indicated that they did not perceive a need for further training.

In the area of park management skills, 6 employers (66.7%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 2 employers (22.2%) and 1 employer (11.1%) indicated a perception of above average importance to the job. The mean score derived was 1.89. Park management

skills were ranked 11 in order of importance to the job. In rgard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 2 employers (22.2%) indicated that they perceived a need for further training, while 7 employers (77.8%) indicated that they did not perceive a need for further training.

In the area of interpretative recreation skills, 5 employers (55.6%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 2 employers (22.2%) and 2 employers (22.2%) indicated a perception of above average importance to the job. The mean score derived was 4.22. Interpretative recreation skills were ranked 1 in orde of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 2 employers (22.2%) indicated that they perceived a need for further training, while 7 employers (77.8%) indicated that they did not perceive a need for further training.

In the area of personnel management skills, 1 employer (11.1%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 5 employers (55.6%) and 3 employers (33.3%) indicated a perception of above average importance to the job. The mean score was 3.333. Personnel management skills were ranked 2.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 5 employers (55.6%) indicated that they perceived a need for further training while 4 employers (44.4%) indicated that they did not perceive a need for further training.

In the area of forest protection skills, 2 employers (22.2%) indicated a perception of less than average importance to the job. A

perception of average importance to the job was indicated by 5 employers (55.6%) and 2 employers (22.2%) indicated a perception of above average importance to the job. The mean score derived was 3.00. Forest protection skills were ranked 6.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 5 employers (55.6%) indicated that they perceived a need for further training, while 4 employers (44.4%) indicated that they did not perceive a need for further training.

In the area of forest multiple use skills, 4 employers (44.4%) indicated a perception of less than average importance to the job. A perception of average importance to the job was indicated by 1 employer (11.1%) and 4 employers (44.4%) indicated a perception of above average to the job. The mean score derived was 3.00. Forest multiple use skills were ranked 6.5 in order of importance to the job. In regard to the question: "Do You Feel This Graduate Needs Further Training In This Skill?", 3 employers (33.3%) indicated that they perceived a need for further training while 6 employers (66.7%) indicated that they did not perceive a need for further training.

Research Question 3

How do former students' and employers' perception of the importance of the 12 skill areas to the job compare?

In order to show the degree of agreement or disagreement, it is necessary to match employers to the former students that worked for them. As can be noted in Table I, there were 19 former students that were employed. In addition, as can be noted in Table I, there were only 9 employer responses. Of these, only 6 could be matched with a former

student. The writer was advised that, given the narrow scope of this data, only a limited statistical approach could be made.

Table VIII consolidates information from Tables IV and VI to show the relative importance of the 12 skill areas to the job as perceived by graduates and their employers. Means were graphed and computed in Figure 1 and Table VIII, in addition the arithmatic means were shown and the rank order developed and shown for each of the 12 skill areas.

Communication skills and personnel management skills were ranked as one and two respectively by the graduates; and fourth and second respectively by the employers (Table VII). This indicates that there is a definite need for both skills as related to the forest park management technician's job. The forest park management technician must possess the ability to interpret written and oral communications to carry out a management plan or other task. There also exists a need for the forest park management technician to communicate various facts to superiors. Personnel management is also of importance in the technician's role in middle management. A forestry organization depends on the forest park management technician to organize and manipulate a manpower force to produce the desired end result of a management objective.

Mathematics skills are ranked second both by graduates and employers showing the high level of importance of this skill. The pure mathematical concepts are normally used by the technician in the traditional formula and terms associated with the field.

Conservation of natural resources skills were ranked eighth by the graduates and 9.5 by the employers which is a low level of importance for this skill. Conservation includes many skills related to a variety of tasks accomplished in the forest. It is difficult to separate the

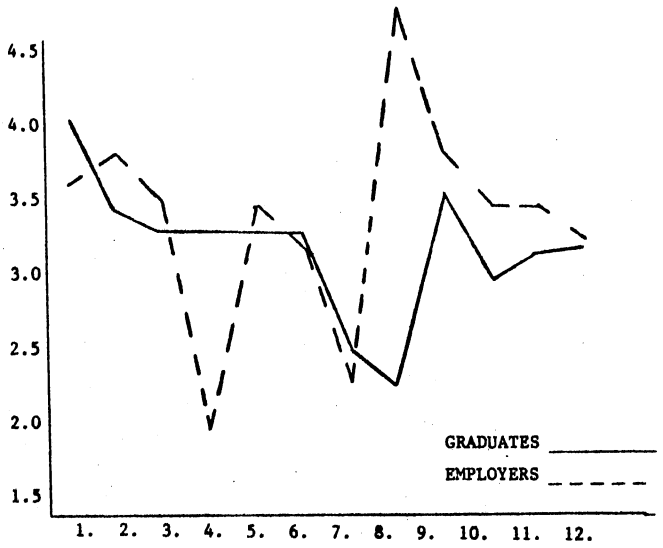


Figure 1. Employee-Employer Perceptions of Relative Importance of the Twelve Skill Areas to the Job

TABLE VIII

EMPLOYEE-EMPLOYER PERCEPTIONS OF RELATIVE IMPORTANCE OF THE TWELVE SKILL AREAS TO THE JOB

| Skill Area | Employees | | Employers | |
|---|---|---|---|---|
| | Mean* | Rank | Mean* | Rank |
| Communication Skills | 3.54 | 1.0 | 3.11 | 4.0 |
| Mathematic Skills | 2.96 | 3.0 | 3.33 | 2.5 |
| Dendrology | 2.83 | 5.5 | 3.00 | 6.5 |
| Plant Materials and Landscaping | 2.83 | 5.5 | 1.56 | 12.0 |
| Surveying | 2.83 | 5.5 | 3.00 | 6.5 |
| Public Relations | 2.83 | 5.5 | 2.78 | 9.5 |
| Park Management | 2.13 | 11.0 | 1.89 | 11.0 |
| Interpretative Recreation | 1.79 | 12.0 | 4.22 | 1.0 |
| Personnel Management | 3.08 | 2.0 | 3.33 | 2.5 |
| Forest Protection | 2.54 | 10.0 | 3.00 | 6.5 |
| Forest Multiple Use | 2.71 | 9.0 | 3.00 | 6.5 |
| Conservation of Resources | 2.75 | 8.0 | 2.78 | 9.5 |

*Mean Code

| | | | |
|---|---|---|---|
| Of No Real Importance | 1.0-1.49 | Of Major Importance | 3.5-4.49 |
| Of Some Importance | 1.5-2.49 | Of Critical Importance | 4.5-5.0 |
| Of Considerable Importance | 2.5-3.49 | | |

conservation skills from other skills that either directly or indirectly involve sound management practices used to conserve a natural resource.

Interpretative recreation skills were ranked twelfth by the graduates and first by employers. It is difficult to separate the demand for outdoor recreation, either directly or indirectly, from any sound management practices involving the forest resource. Because of this, the technician apparently does not relate to the importance of the importance of the interpretative recreation skills.

Research Question 4

How do employers' and graduates' perceptions compare regarding further training in the 12 skill areas?

As indicated in Table IX, the question of how employers' and graduates' perceptions compare regarding the need for further training in the 12 skills areas answered "yes" or "no." The employers answering yes ranged from 22.2% to 55.6% while the graduates answering yes ranged from 33.3% to 70.8%. The employers answering no ranged from 44.4% to 77.8% while the graduates answering no ranged from 29.2% to 66.7%.

Research Question 5

What is the order of importance of the selected skill areas according to the graduate?

The computed means were utilized to determine the rank order shown for each of the skills in Table VIII. This ranking shows the relative importance of each skill as perceived by the former student. These former students perceived the importance of the skill areas to be ranked as follows:

TABLE IX

PERCEPTIONS OF EMPLOYERS AND GRADUATES
REGARDING NEED FOR FURTHER TRAINING

| | Yes | | | | No | | | |
|---|---|---|---|---|---|---|---|---|
| | Employers | | Graduates | | Employers | | Graduates | |
| | N | % | N | % | N | % | N | % |
| Communication Skills | 5 | 55.6 | 12 | 50.0 | 4 | 44.4 | 12 | 50.0 |
| Mathematical Skills | 4 | 44.4 | 17 | 70.8 | 5 | 55.6 | 7 | 29.2 |
| Dendrology | 2 | 22.2 | 11 | 45.8 | 7 | 77.8 | 13 | 54.2 |
| Plants Materials and Landscaping | 2 | 22.2 | 8 | 33.3 | 7 | 77.8 | 16 | 66.7 |
| Surveying | 3 | 33.3 | 14 | 58.3 | 6 | 66.7 | 10 | 41.7 |
| Public Relations | 3 | 33.3 | 11 | 45.8 | 6 | 66.7 | 13 | 54.2 |
| Park Management | 2 | 22.2 | 9 | 37.5 | 7 | 77.8 | 15 | 62.5 |
| Interpretative Recreation | 2 | 22.2 | 14 | 58.3 | 7 | 77.8 | 10 | 41.7 |
| Personnel Management | 5 | 55.6 | 17 | 70.8 | 4 | 44.4 | 7 | 29.2 |
| Forest Protection | 5 | 55.6 | 13 | 54.2 | 4 | 44.4 | 11 | 45.8 |
| Forest Multiple Use | 4 | 44.4 | 10 | 41.7 | 5 | 55.6 | 14 | 58.3 |
| Conservation of Resources | 3 | 33.3 | 10 | 41.7 | 6 | 66.7 | 14 | 58.3 |

| Rank | Skill Area |
|---|---|
| 1.0 | Communication |
| 2.0 | Personal Management |
| 3.0 | Mathematical |
| 5.5 | Dendrology |
| 5.5 | Plant Materials, Landscaping |
| 5.5 | Surveying |
| 5.5 | Public Relations |
| 8.0 | Conservation of Resources |
| 9.0 | Forest Multiple Use |
| 10.0 | Forest Protection |
| 11.0 | Park Management |
| 12.0 | Interpretative Recreation |

Research Question 6

What is the order of importance of the selected skill areas from the employers' viewpoint?

The computed means were utilized to determine the rank order shown for each of the skills in Table VIII. This ranking shows the relative importance of each skill as perceived by the employers of former students.

Employers perceived the importance of the skill areas to be ranked as follows:

| Rank | Skill Area |
|---|---|
| 1.0 | Interpretative Recreation |
| 2.5 | Personnel Management |
| 2.5 | Mathematical |

| Rank | Skill Area |
|---|---|
| 4.0 | Communication |
| 6.5 | Dendrology |
| 6.5 | Surveying |
| 6.5 | Forest Protection |
| 6.5 | Forest Multiple Use |
| 9.5 | Conservation of Resources |
| 9.5 | Public Relations |
| 11.0 | Park Management |
| 12.0 | Plant Materials, Landscaping |

Research Question 7

What are the graduates' perceptions of their own skills in regard to the 12 skill areas?

Responses to this question were treated in the same manner as question 1. First, the number of the individual responses were recorded across a five-point Likert-type scale and the percentage of the total response to that particular skill area was computed. Second, areas were rank ordered in descending order of perceived competency. Table X shows the number of responses in each category, the mean percentage of the total response to each skill area, the mean score of each skill area and its rank order of importance.

For discussion purposes, the first two categories "Need Much Improvement" and "Below Average" were collapsed into a single category to show direction. They were referred to as "Below Average," while the middle category, "Average" will remain the same. To emphasize the direction of the two upper responses, "Above Average" and "Outstanding"

TABLE X

DISTRIBUTION OF FORMER STUDENTS REGARDING THEIR SELF-EVALUATION OF THE TWELVE SKILL AREAS

| Skill Area | How Would You Evaluate Yourself On This Skill? | | | | | | | | | | Mean Score | Rank Order |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Need Much Improvement 1 | | Below Average 2 | | Average 3 | | Above Average 4 | | Outstanding 5 | | | |
| | N | % | N | % | N | % | N | % | N | % | | |
| Communication Skill | 1 | 4.2 | 0 | 0.0 | 15 | 62.5 | 7 | 29.2 | 1 | 4.2 | 3.29 | 7.0 |
| Mathematical Skill | 0 | 0.0 | 3 | 12.5 | 11 | 45.8 | 8 | 33.3 | 2 | 8.3 | 3.38 | 4.0 |
| Dendrology | 0 | 0.0 | 0 | 0.0 | 10 | 41.7 | 12 | 50.0 | 2 | 8.3 | 3.67 | 1.0 |
| Plant Materials, Landscaping | 0 | 0.0 | 4 | 16.7 | 13 | 54.2 | 6 | 25.0 | 1 | 4.2 | 3.17 | 10.0 |
| Surveying | 2 | 8.3 | 6 | 25.0 | 11 | 45.8 | 4 | 16.7 | 1 | 4.2 | 2.83 | 12.0 |
| Public Relations | 1 | 4.2 | 2 | 8.3 | 11 | 45.8 | 8 | 33.3 | 2 | 8.3 | 3.33 | 5.0 |
| Park Management | 0 | 0.0 | 3 | 12.5 | 11 | 45.8 | 10 | 41.7 | 0 | 0.0 | 3.29 | 7.0 |
| Interpretative Recreation | 1 | 4.2 | 0 | 0.0 | 16 | 66.7 | 6 | 25.0 | 1 | 4.2 | 3.25 | 9.0 |
| Personnel Management | 0 | 0.0 | 3 | 12.5 | 12 | 50.0 | 8 | 33.3 | 1 | 4.2 | 3.29 | 7.0 |
| Forest Protection | 1 | 4.2 | 2 | 8.3 | 15 | 12.5 | 5 | 20.8 | 1 | 4.2 | 3.13 | 11.0 |
| Forest Multiple Use | 0 | 0.0 | 2 | 8.3 | 10 | 41.7 | 12 | 50.0 | 0 | 0.0 | 3.42 | 2.5 |
| Conservation of Resources | 0 | 0.0 | 3 | 12.5 | 9 | 37.5 | 11 | 45.8 | 1 | 4.2 | 3.42 | 2.5 |

were collapsed into a single category of "Above Average."

In the area of communication skills, 1 of the respondents (4.2%) indicated that they had a perception of below average. A perception of average competency was indicated by 15 respondents (62.5%) while 8 (33.3%) perceived that they were above average in competency. A mean score of 3.24 was derived, which ranked communication skills seventh in order of competency.

In the area of mathematical skills, 3 of the respondents (12.52%) indicated that they were below average. A perception of average competency was indicated by 11 (45.8%), while 10 (41.6%) perceived that they were above average competency. A mean score of 3.38 was derived, which ranked mathematical skills fourth in the order of competency.

In the area of dendrology, no former students were perceived to have a less than average competency. A perception of average competency was indicated by 10 (41.7%) and of above average by 14 (58.3%). A mean score of 3.67 was determined, which ranked dendrology first in order of competency.

In the area of plant materials and landscaping, 4 (16.7%) indicated a perceived competency of less than average. A perception of average competency was indicated by 13 (54.2%) and of above average by 7 (29.3%). A mean score of 3.17 was determined, which ranked plant materials and landscaping skills tenth in order of competency.

In the area of surveying skills, 8 (33.3%) indicated a perceived competency of less than average. A perception of average competency was indicated by 11 (45.8%) and of above average by 5 (20.9%). A mean score of 2.83 was determined, which ranked surveying skills as number 12 in order of competency.

In the area of public relations, 3 (12.5%) indicated a perceived competence of less than average. A perceived average competence was indicated by 11 (45.8%) and an above average competence of 10 (41.6%). A mean score of 33.3 was determined, which ranked public relation skills number 5 in order of competency.

In the area of interpretative recreation, 1 (4.2%) indicated a perceived competence of less than average. A perception of average competence was indicated by 16 (66.7%) and of above average of 7 (29.2%). A mean score of 3.25 was determined which ranked interpretative recreation ninth in order of competency.

In the area of personnel management skills, 3 (12.5%) indicated a perceived competence of less than average. A perception of average competency was indicated by 12 (50.0%) and of above average by 9 (37.5). A mean score of 3.29 was determined which ranked personnel management seventh in order of competency.

In the area of forest protection, 3 (12.5%) indicated a perceived competence of less than average. A perception of average competency was indicated by 15 (12.5%) and of above average by 6 (25.0%). A mean score of 3.13 was determined which ranked forest protection eleventh in the order of competency.

In the area of forest multiple use, 2 (8.3%) indicated a perceived competence of less than average. A perceived competence was indicated by 10 (41.7%) and of above average by 12 (50.0%). A mean score of 3.42 was determined which ranked forest multiple use 2.5 in order of competency.

In the area of conservation of resources, 3 (12.5%) indicated a perceived competence of less than average. A perception of average

competency was indicated by 9 (37.5%) and of above average by 12 (50.0%). A mean score of 3.42 was determined which ranked conservation of resources 2.5 in order of competency.

Research Question 8

What are the employers' perceptions of the graduates' skills in the 12 skill areas?

Responses to this question were treated in the same manner as question 1 and 8. First, the number of individual responses were recorded across a five-point Likert-type scale, and the percentage of the total response to that particular skill area was computed. Second, the arithmatic means of all responses were computed and the 12 skill areas were rank ordered in descending order of perceived competency. Table XI shows the number of responses in each category, the mean percentage of total response to each skill area, the mean score of each skill area, and its rank order of competency.

It was more meaningful to collapse the first two categories, "Falls in the Low 5 Percent" and "Falls in the Lower 20 Percent," together to show direction. They were referred to collectively as "below average," while the middle category, "Falls in the Middle 50 Percent," was called "average." To emphasize the direction of the two upper categories, "Falls in the Upper 20 Percent" and "Falls in the Upper 5 Percent" were collapsed into a single group of "above average."

In the area of communication skills, 1 (11.1%) indicated a competency of below average, while 3 (33.3%) perceived that former students were of average competency. Five (55.6%) indicated a perceived competency of above average. The mean score derived was 3.44 which ranked

TABLE XI

DISTRIBUTION OF EMPLOYERS REGARDING THEIR EVALUATION OF FORMER STUDENTS IN THE TWELVE SKILL AREAS

| Skill Area | How Would You Evaluate Him On His Skill? | | | | | | | | | | Mean Score | Rank Order |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Falls In The Lower 5% | | Falls In The Lower 20% | | Falls In The Middle 50% | | Falls In The Upper 20% | | Falls In The Upper 5% | | | |
| | 1 | | 2 | | 3 | | 4 | | 5 | | | |
| | N | % | N | % | N | % | N | % | N | % | | |
| Communication Skills | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 5 | 55.6 | 0 | 0.0 | 3.44 | 6.5 |
| Mathematical Skills | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 5 | 55.6 | 0 | 0.0 | 3.44 | 6.5 |
| Dendrology | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 4 | 44.4 | 1 | 11.1 | 3.56 | 2.5 |
| Plant Materials, Landscaping | 0 | 0.0 | 0 | 0.0 | 5 | 55.6 | 4 | 44.4 | 0 | 0.0 | 3.44 | 6.5 |
| Surveying | 0 | 0.0 | 2 | 22.2 | 3 | 33.3 | 2 | 22.2 | 2 | 22.2 | 3.44 | 6.5 |
| Public Relations | 1 | 11.1 | 2 | 22.2 | 2 | 22.2 | 5 | 55.6 | 1 | 11.1 | 4.00 | 1.0 |
| Park Management | 0 | 0.0 | 1 | 11.1 | 4 | 44.4 | 3 | 33.3 | 1 | 11.1 | 3.44 | 6.5 |
| Interpretative Recreation | 0 | 0.0 | 1 | 11.1 | 4 | 44.4 | 4 | 44.4 | 0 | 0.0 | 3.33 | 10.5 |
| Personnel Management | 1 | 11.1 | 0 | 0.0 | 4 | 44.4 | 4 | 44.4 | 0 | 0.0 | 3.22 | 12.0 |
| Forest Protection | 0 | 0.0 | 1 | 11.1 | 4 | 44.4 | 4 | 44.4 | 0 | 0.0 | 3.33 | 10.5 |
| Forest Multiple Use | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 5 | 55.6 | 0 | 0.0 | 3.44 | 6.5 |
| Conservation of Resources | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 4 | 44.4 | 1 | 11.1 | 3.56 | 2.5 |

communication skills 6.5 in order of competency.

In the area of mathematic skills, 1 (11.3%) indicated a competency of below average, while 3 (33.3%) perceived that former students were of average competency. Five (55.6%) indicated a perceived competency of above average. The means score was 3.44 which ranked mathematical skills 6.5 in order of competency.

In the area of plant materials and landscaping skills, none of the employers indicated a competency of below average, while 5 (55.6%) perceived that former students were of average competency. Four (44.4%) indicated a perceived competency of above average. The mean score derived was 3.44 which ranked plant materials and landscaping skills 6.5 in order of competency.

In the area of surveying skills, 2 (22.2%) indicated a competency of below average, while 3 (33.3%) perceived that former students were of average competency. Four (44.4%) indicated a perceived competency of above average. The mean score derived was 3.44 which ranked surveying skills 6.5 in order of competence.

In the area of public relations, 3 (33.3%) indicated a competency of below average, while 2 (22.2%) perceived that former students were of average competency. Six (66.7%) indicated a perceived competency of above average. The mean score derived was 4.00 which ranked public relations first in order of competence.

In the area of park management skills, 1 (11.1%) indicated a competency of below average, while 4 (44.4%) perceived that former students were of average competency. Four (44.4%) indicated a perceived competency of above average. The mean score derived was 3.44 which ranked park management skills 6.5 in order of competence.

In the area of interpretative recreation skills, 1 (11.1%) indicated a competency of below average, while 4 (44.4%) perceived that former students were of average competency. Four (44.4%) indicated a perceived competency of above average. The mean score derived was 3.33 which ranked interpretative recreation skills 10.5 in order of competence.

In the area of personnel management skills, 1 (11.1%) indicated a competency of below average, while 4 (44.4%) perceived that former students were of average competency. Four (44.4%) indicated a perceived competency of above average. The mean score derived was 3.22 which ranked personnel management skills twelfth in order of competence.

In the area of forest protection (11.1%) indicated a competency of below average, while 4 (44.4%) perceived that former students were of average competency. Four (44.4%) indicated a perceived competency of above average. The mean score derived was 3.33 which ranked forest protection 10.5 in order of competence.

In the area of forest multiple use skills, 1 (11.1%) indicated a competency of below average, while 3 (33.3%) perceived that former students were of average competency. Five (55.6%) indicated a perceived competency of above average. The mean score derived was 3.44 which ranked forest multiple use skills 6.5 in order of competence.

In the area of conservation of resources, 1 (11.1%) indicated a competence of below average, while 3 (33.3%) perceived that former students were of average competency. Five (55.6%) indicated a perceived competency of above average. The mean score derived was 3.56 which ranked conservation of resources skills 2.5 in order of competency.

Research Question 9

How do employers' and graduates' perceptions compare with regard to the graduates' skills in the 12 selected areas?

In order to show the degree of agreement or disagreement, it is necessary to match employers to the former students who worked for them. As can be noted in Table I, there were 19 former employed. In addition, as can also be noted in Table I, there were 9 employer responses and of these, 6 could be paired with a former student. The writer was advised that, given the narrow scope of this data, there could be only a limited statistical approach.

Figure 2 and Table XII consolidates the information given in Tables X and XI to show a summary of employers' and graduates' perceptions in regard to graduates' performance of the 12 skills. Means were computed and graphed in Table XII. In addition the arithmatic means were shown and the rank order developed and shown for each of the 12 skill areas. Both sets of respondents rated the graduates' abilities to perform the 12 skills as being average (mean code: 2.5-3.49) to above average (mean code: 3.5-4.49).

The employers perceived the graduates' abilities to perform the skills higher (3.22 to 4.00) than did the graduates (2.83 to 3.67). This indicates a lower level of self-confidence among the graduates compared to the ability perceived by the employers.

Research Question 10

According to the responses, where do former students perceive they learned most about each of the 12 skill areas?

Individual responses to this question were recorded for each skill

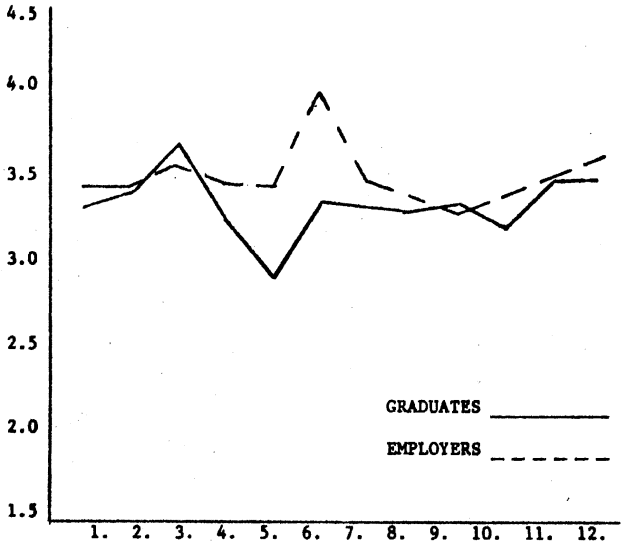


Figure 2. Summary of Employers' and Graduates' Perceptions in Regard to Graduates' Performance of the Twelve Skills

TABLE XII

SUMMARY OF EMPLOYERS' AND GRADUATES' PERCEPTIONS IN REGARD TO GRADUATES' PERFORMANCE OF THE TWELVE SKILLS

| Skill Area | Employees | | Employers | |
|---|---|---|---|---|
| | Mean* | Rank | Mean* | Rank |
| Communication Skills | 3.29 | 7.0 | 3.44 | 6.5 |
| Mathematic Skills | 3.38 | 4.0 | 3.44 | 6.5 |
| Dendrology | 3.67 | 1.0 | 3.56 | 2.5 |
| Plants Materials and Landscaping | 3.17 | 10.0 | 3.44 | 6.5 |
| Surveying | 2.83 | 12.0 | 3.44 | 6.5 |
| Public Relations | 3.33 | 5.0 | 4.00 | 1.0 |
| Park Management | 3.29 | 7.0 | 3.44 | 6.5 |
| Interpretative Recreation | 3.25 | 9.0 | 3.33 | 10.5 |
| Personnel Management | 3.29 | 7.0 | 3.22 | 12.0 |
| Forest Protection | 3.13 | 11.0 | 3.33 | 10.5 |
| Forest Multiple Use | 3.42 | 2.5 | 3.44 | 6.5 |
| Conservation of Resources | 3.42 | 2.5 | 3.56 | 2.5 |

*Mean Code

| | | | |
|---|---|---|---|
| Need Much Improvement | 1.0-1.49 | Above Average | 3.5-4.49 |
| Below Average | 1.5-2.49 | Outstanding | 4.5-5.0 |
| Average | 2.5-3.49 | | |

area as to where the most of the skill was learned. The percentage of the total response for each skill was determined. Table XIII shows the number of individual responses in each category, the percentage of the total response to each skill area, and the mean.

In the areas of dendrology, plant materials, surveying, park management, interpretative recreation, forest protection, forest multiple use and conservation of resources, at least 83.3% of the former students perceived they learned most of that skill in the Forest Park Management Program at Eastern Oklahoma State College. The remainder of the responses were distributed across the other four categories, with "On Regular Job" being the next in order.

The remaining are as ranged from 45.8% to 6.5% of the former students perceiving that they learned most about that skill in the Forest Park Management Program at Eastern Oklahoma State College. In all cases except mathematics, the next most significant place for learning skills was "On Regular Job." For mathematics, 16.7% of the former students felt they learned the most about that skill in high school.

Research Question 11

According to responses, how do employers compare former students with other entry level workers who received training other than at the Forest Park Management Program at Eastern Oklahoma State College.

Responses to this question were treated in two ways. First, the number of individual responses were recorded across a five-point Likert-type scale and the percentage of the total response to that particular skill area was computed. Second, the arithmatic means of all responses were computed, from which an overall mean for all 12 skill areas was

TABLE XIII

WHERE FORMER STUDENTS LEARNED MOST ABOUT THE TWELVE SKILL AREAS

| Skill Area | High School 1 | | E.O.S.C. Park Mgt. Program 2 | | Apprentice Program 3 | | On Regular Job 4 | | Elsewhere 5 | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % | |
| Communication Skills | 1 | 4.2 | 11 | 45.8 | 1 | 4.2 | 6 | 25.0 | 5 | 20.8 | 100 |
| Mathematical Skills | 4 | 16.7 | 14 | 58.3 | 0 | 0.0 | 4 | 16.7 | 2 | 8.3 | 100 |
| Dendrology | 0 | 0.0 | 23 | 95.8 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 100 |
| Plant Materials, Landscaping | 0 | 0.0 | 21 | 87.5 | 0 | 0.0 | 2 | 8.3 | 1 | 4.2 | 100 |
| Surveying | 0 | 0.0 | 20 | 83.3 | 0 | 0.0 | 3 | 12.5 | 1 | 4.2 | 100 |
| Public Relations | 0 | 0.0 | 15 | 62.5 | 0 | 0.0 | 7 | 29.2 | 2 | 8.3 | 100 |
| Park Management | 0 | 0.0 | 21 | 87.5 | 0 | 0.0 | 3 | 12.5 | 0 | 0.0 | 100 |
| Interpretative Recreation | 0 | 0.0 | 21 | 87.5 | 0 | 0.0 | 2 | 8.3 | 1 | 4.2 | 100 |
| Personnel Management | 0 | 0.0 | 12 | 50.0 | 0 | 0.0 | 10 | 41.7 | 2 | 8.3 | 100 |
| Forest Protection | 0 | 0.0 | 21 | 87.5 | 0 | 0.0 | 3 | 12.5 | 0 | 0.0 | 100 |
| Forest Multiple Use | 1 | 4.2 | 21 | 87.5 | 0 | 0.0 | 1 | 4.2 | 1 | 4.2 | 100 |
| Conservation of Resources | 0 | 0.0 | 22 | 91.7 | 0 | 0.0 | 1 | 4.2 | 1 | 4.2 | 100 |
| Mean $\overline{X}$ | | 2.1 | | 77.1 | | 0.4 | | 14.9 | | 5.5 | 100 |

computed. Results are recorded in Table XIV.

Due to the distribution of responses, it was more meaningful to collapse the first two categories, "Needs Much Improvement" and "Generally Below Average," together to show direction. They were referred to as "Generally Below Average" while the middle category "Average" kept its designation. To emphasize the direction of the two upper categories "Generally Above Average" and "Outstanding" they were collapsed into a single category of "Generally Above Average."

In the area of communication skills, none of the employers rated former students below average, while 6 (66.7%) perceived them to be average and 3 (33.3%) indicated that the former students were above average when compared to entry level workers who had received training other than at the Forest Park Management Program at Eastern Oklahoma State College. A mean score of 3.44 was derived.

In the area of mathematical skills, none of the employers rated former students below average, while 6 (66.7%) of the employers perceived them to be average and 3 (33.3%) indicated that the former students were above average when compared to entry level workers who had received their training other than at the Forest Park Management Program at Eastern Oklahoma State College (E.O.S.C.). A mean score of 3.44 was derived.

In the area of dendrology, none of the employers rated former students below average, while 3 (33.3%) perceived them to be average and 6 (66.7%) indicated them to be above average compared to other entry level workers. A mean score of 3.89 was derived.

In the area of plant materials and landscaping skills, none of the employers rated former students below average, while 5 (55.6%) perceived

TABLE XIV

EMPLOYERS' COMPARISON OF FORMER STUDENTS WITH OTHER ENTRY LEVEL WORKERS

| Skill Area | How Does He Compare With Other Workers Who Have Had Similar Entry Level Training? | | | | | | | | | | Mean Score | Rank Order |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Needs Much Improvement 1 | | Generally Below Average 2 | | Average 3 | | Generally Above Average 4 | | Outstanding 5 | | | |
| | N | % | N | % | N | % | N | % | N | % | | |
| Communication Skills | 0 | 0.0 | 0 | 0.0 | 6 | 66.7 | 2 | 22.2 | 1 | 11.1 | 3.44 | 7.5 |
| Mathematical Skills | 0 | 0.0 | 0 | 0.0 | 6 | 66.7 | 2 | 22.2 | 1 | 11.1 | 3.44 | 7.5 |
| Dendrology | 0 | 0.0 | 0 | 0.0 | 3 | 33.3 | 4 | 44.4 | 2 | 22.2 | 3.89 | 2.0 |
| Plants Materials, Landscaping | 0 | 0.0 | 0 | 0.0 | 5 | 55.6 | 3 | 33.3 | 1 | 11.1 | 3.56 | 4.5 |
| Surveying | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 4 | 44.4 | 1 | 11.1 | 3.56 | 4.5 |
| Public Relations | 1 | 11.1 | 0 | 0.0 | 2 | 22.2 | 6 | 66.7 | 0 | 0.0 | 3.44 | 7.5 |
| Park Management | 0 | 0.0 | 0 | 0.0 | 6 | 66.7 | 3 | 33.3 | 0 | 0.0 | 3.30 | 11.0 |
| Interpretative Recreation | 0 | 0.0 | 0 | 0.0 | 6 | 66.7 | 3 | 33.3 | 0 | 0.0 | 3.30 | 11.0 |
| Personnel Management | 0 | 0.0 | 1 | 11.1 | 3 | 33.3 | 5 | 55.6 | 0 | 0.0 | 3.44 | 7.5 |
| Forest Protection | 0 | 0.0 | 0 | 0.0 | 6 | 66.7 | 3 | 33.3 | 0 | 0.0 | 3.30 | 11.0 |
| Forest Multiple Use | 0 | 0.0 | 0 | 0.0 | 4 | 44.4 | 5 | 55.6 | 0 | 0.0 | 4.11 | 1.0 |
| Conservation of Resources | 0 | 0.0 | 0 | 0.0 | 4 | 44.4 | 4 | 44.4 | 1 | 11.1 | 3.67 | 3.0 |

them to be average, and 4 (44.4%) indicated that the former students were above average compared to other entry level workers. A mean score of 3.56 was derived.

In the area of public relations, 1 (11.1%) of the employers rated former students below average, while 2 (22.2%) perceived them to be average and 6 (66.7%) indicated that the former students were above average compared to other entry level workers. A mean score of 3.44 was derived.

In the area of park management skills, none of the employers rated former students below average, while 6 (66.7%) perceived them to be average and 3 (33.3%) indicated that the former students were above averge when compared to other entry level workers. A mean score of 3.00 was derived.

In the area of interpretative recreation skills, none of the employers rated former students below average, while 6 (66.7%) perceived them to be average and 3 (33.3%) indicated that former students were above average compared to other entry level workers. A mean score of 3.30 was derived.

In the area of personnel management, 1 (11.1%) of the employers rated former students below average, while 3 (33.3%) perceived them to be average and 5 (55.6%) indicated that the former students were above average compared to other entry level workers. A mean score of 3.44 wa derived.

In the area of forest protection skills, none of the employers rated former students below average, while 6 (66.7%) perceived them to be average and 3 (33.3%) indicated that the former students were above average compared to other entry level workers. A mean score of 3.30

was derived.

In the area of forest multiple use skills, none of the employers rated former students below average, while 4 (44.4%) perceived them to be average and 5 (55.6%) indicated that the former students were above average compared to other entry level workers. A mean score of 4.11 was derived.

In the area of conservation of resources, none of the employers rated former students below average while 4 (44.4%) perceived them to be average and 5 (55.6%) indicated that the former students were above average compared to other entry level workers. A mean score of 5.55 was derived.

## Summary

In summary, the data presented in this chapter indicated that graduates of the Forest Park Management Program at E.O.S.C. and their employers generally perceive the same relative importance of the various skills to the job except in the areas of plant materials and landscaping, and interpretative recreation. However they differ greatly in their perceptions of the areas needing further training.

In Table XII the summary of the employers' and graduates' perceptions regardng the graduates' performance of the 12 skills indicates that the employer perceived the graduates' abilities to perform the skills higher than did the graduates.

In the question of where the former students learned the most about the 12 skill areas, 83.3% of the former students indicated Eastern Oklahoma State College as their response.

When the former students were compard with other workers who have

had similar entry level training, the employers ranked the former students as average, generally above average and outstanding, but none were ranked in the category of below average.

Selected statements by employers included in Appendix D, and by employees in Appendix C, indicated that for the most part both groups are generally pleased with the training received. Several suggestions, however, were made that it was felt would improve training opportunities for future students.

# CHAPTER V

# FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

## Introduction

There has been a growing concern among foresters about the present and future manpower needs for the management and efficient use of forest lands and other natural resources. One of the ways society has attempted to respond to these needs is through forestry technician training programs. Eastern Oklahoma State College at Wilburton, Oklahoma, presently offers such a program. However to date, relatively little has been done to evaluate the extent to which both employers and graduates perceive the adequacy of the formal training received by graduates.

The objectives of this research were first to determine the perceptions of graduates and employers as to the importance and adequacy of training received by the graduates of the Forest Park Management Program at Eastern Oklahoma State College at Wilburton, Oklahoma. Secondly, to ascertain the relationship between employer and graduate perceptions.

The population in this study was restricted to the 48 Park Management Technician graduates who were enrolled in the Park Management Program at Eastern Oklahoma State College from 1970 to 1979 and their employers.

A mailed questionnaire was utilized as the data collected instrument. Two cover letters (Appendix A) were used in transmitting the

questionnaire (Appendix B). Both were signed by Dr. Jesse Mitchell, Director of Agricultural Services at Eastern Oklahoma State College. One was sent to the employer stressing the importance of the study to the institution and to future students. A second, more personal one, was sent to the graduate and included instructions concerning the questionnaire. The employers' questionnaire was also sent to the graduate with a request to deliver it to the employer. Both questionnaires with self-addressed, stamped envelopes included, were sent by regular mail. Common to both questionnaires were the 12 skill areas and questions concerning: (1) the importance of the skill area to the job, (2) evaluation of the skill area, and (3) the need for further training.

By the closing date of the study, October 1, 1980, 24 graduate returns and 19 employer returns had been received. The returned percentages were 50% for the graduates and 47.4% for the employers.

## Findings

Examination of the returns revealed the following: of the graduates, 16.7% were continuing their education; 41% were employed in forestry; 12.5% were self-employed; 2.5% were in full-time, non-forestry employment; and 4.2% were unemployed.

Graduates were further divided into job title categories of administrative, middle management, and laborer to indicate a level of job achievement. Table III indicates that 62.4% of the graduates were employed in the administrative or mid-management category. And 16.7% employed as laborers were individuals who graduated in the spring of 1979 and were in an on-the-job training program before being advanced into a middle management position.

The data presented in Chapter IV indicates that the graduates of the Forest Park Management Program at E.O.S.C. and their employers generally perceive the same relative importance of the various skills to the job except in the areas of plant materials and landscaping, and interpretative recreation. However, they differ greatly in their perceptions of the areas needing further training. This could be caused by the fact that seven of the graduates, while working in areas closely related to their training, are never-the-less, employed in a field of expertise not included in the Forest Park Management Program at E.O.S.C. These employment areas were timber management, tree stand improvement, forest genetics, soil conservation, and survey party chief.

Table XII represents a summary of the graduates' and employers' ranking of the graduates' abilities to perform the skills. Both sets of respondents rated the graduates' abilities to perform the 12 skills as being of average to above average. This indicates that the graduates' performance of the 12 skill areas is above an adequate level of performance.

The employers ranked the graduates' abilities to perform the 12 skills higher than did the graduates. This indicates a lower level of self-confidence among the graduates. Personnel management skill was ranked seventh by the graduates and twelfth by the employers. Although the employers ranked personnel management as being the skill in which graduates attained the least ability, their performance was still average.

To improve Eastern's Forest Park Management Program, the instructors must know how effective their presentations are. In an attempt to locate the source of skill attainment, the question "Where Did You Learn

Most About The Skill?" was asked the graduates. The most notable percentage indicated that 95.8% of the dendrology skills were learned at Eastern Oklahoma State College with the remaining 4.2% being learned on the job.

The lowest percentage for a skill learned at E.O.S.C. was 45.8% for communication skills in which 25% was learned on the job, 20.8% elsewhere, 4.2% in an apprentice program, and 4.2% in high school. A mean 77.1% of the 12 skill areas was perceived as being learned by the graduates at E.S.O.C. Forest Park Management Program.

Table XIV consists of a summary of the employers' comparisons of graduates with other entry level Forest Park Management Technicians who were trained at an institution other than E.O.S.C. This comparison is of importance in the placement of E.O.S.C. Forest Park Management Technician graduates. The responding employers indicated that the average mean of .93 needs much improvement, 1.85 are generally below average, 50.0 are average, 40.73 are generally above average, and 6.48 are outstanding. The majority 97.21% of Eastern's graduates ranked average to outstanding.

## Conclusions

Graduates and employers have expressed some deficiencies in communication skills, personnel management, forest protection, interpretative recreation, plant materials and landscaping, and surveying skill areas. The Eastern Oklahoma State College graduates' ability to perform the skills compared with Forest Park Management Technicians receiving training elsewhere were generally ranked average or above average by their employers. This indicates that other Forest Park Management Technician

graduates have difficulties in these skill areas and that this may not be unique to E.O.S.C. graduates. Because of the importance of the these skills to the graduates' ability to peform on the job, more emphasis should be placed on these areas in the Forest Park Management Program. Due to the nature of these skills, more emphasis can be placed on these skills in several different courses in the forestry curriculum.

## Recommendations

Based on the data obtained during this study, comments by graduates and their employers, and the conclusions drawn from the analysis of that data, the following recommendations are made:

1. Consideration should be given to the inclusion of more "hands-on" or intern programs, as well as placing additional emphasis in the areas of job-practical knowledge and manual job skills.
2. Consideration should be given to developing orientation materials to acquaint the students with the importance of developing personnel relations skills, supervising skills, and communication skills for their relevance in providing the skills necessary for advancement on the job.

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# APPENDIXES

# APPENDIX A

## TRANSMITTAL AND FOLLOW-UP LETTERS

EASTERN OKLAHOMA STATE COLLEGE
WILBURTON, OKLAHOMA 74578

March 5, 1980

Dear Employer:

Oklahoma State University in cooperation with Eastern Oklahoma State College needs your help! We are interested in providing our students with the most effective up-to-date training possible. In order to provide this type of training it is necessary to constantly improve our course offerings. As an employer of our graduates, your opinion concerning the adequacy of the training they received would be of great value to the institution and future students who will be participating in the Park Management and Outdoor Recreation Program.

We would appreciate it very much if you would complete the enclosed questionnaire and return it in the self-addressed stamped envelope provided. This information will be kept strictly confidential and used for educational purposes only. By completing and returning this questionnaire you will have been of great service to Eastern Oklahoma State College and its future Park Management students.

We are proud of our graduates and are gratified that you have chosen to employ some of them. Your taking time to complete and return this questionnaire is deeply appreciated.

Sincerely yours,

Jesse Mitchell, Director
Agricultural Services
Eastern Oklahoma State College
Wilburton, OK 74578

JM/km

Enclosure

EASTERN OKLAHOMA STATE COLLEGE
WILBURTON, OKLAHOMA 74578

March 5, 1980

Dear Graduate:

Oklahoma State University in cooperation with Eastern Oklahoma State College needs your help! We are interested in providing our students with the most effective up-to-date training possible. In order to provide this type of training it is necessary to constantly improve our course offerings. As a graduate, your opinion concerning the adequacy of the training you received would be of great value to the institution and students who will be participating in the Park Management and Outdoor Recreation Program.

We would appreciate it very much if you would complete the enclosed questionnaire and return it in the self-addressed stamped envelope provided. This information will be kept strictly confidential and used for educational purposes only. By completing and returning this questionnaire, you will have been of great service to Eastern Oklahoma State College and its future Park Management students.

In addition, we are enclosing a similar questionnaire and self-addressed stamped envelope for your employer. Your cooperating in hand-carrying this material to your immediate supervisor is extremely important. At that time, please point out to your immediate supervisor the importance of completing the questionnaire and returning it as soon as possible.

We are proud of each of you who have graduated from Eastern Oklahoma State College and who are our representatives to the world of industry. Your prompt cooperation in completing and returning this questionnaire as well as delivering your employer's questionnaire is deeply appreciated.

Sincerely yours,

Jesse Mitchell, Director
Agricultural Services
Eastern Oklahoma State College
Wilburton, OK 74578

JM/bh
Enclosures

EASTERN OKLAHOMA STATE COLLEGE
WILBURTON, OKLAHOMA 74578

May 13, 1980

Dear Graduate:

I hope you have not misplaced the questionnaire which I sent you as it is very important to the follow-up study I mentioned in my previous letter. Eastern Oklahoma State College (E.O.S.C.) Forestry Department wants to provide the most effective up-to-date training possible for its students. In order to do this, we must hear from all of our former students. Since the best evaluation E.O.S.C. Forest Park Management can get is from its former students and their employers, the department would not be getting an accurate picture of the existing program without your response.

This being the case, would you please sit down now and fill out the questionnaire? You could also be of great assistance, if you would encourage your employer to return his questionnaire as soon as possible.

Thank you in advance for your cooperation.

Sincerely,

George H. Brannon, Jr.
Associate in Research
Technical Education, 406 CLB
Oklahoma State University
Stillwater, Ok 74074

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

# APPENDIX B

# QUESTIONNAIRES

ALL INFORMATION ON THIS QUESTIONNAIRE WILL BE HELD IN STRICT CONFIDENCE AND USED FOR EDUCATIONAL PURPOSES ONLY

NAME_____ DATE_____
Last First Middle

EMPLOYEE QUESTIONNAIRE

JOB TITLE_____

NAME OF EMPLOYER_____

If unemployed, please circle below, as many as apply:

1. Continuing Education
2. Military Service
3. Seasonal Employment
4. Seeking Employment
4. Other (please specify):_____

ADDRESS OF EMPLOYER_____

NAME OF IMMEDIATE SUPERVISOR_____

JOB TITLE OF SUPERVISOR_____

For each of the skill areas listed below, answer the questions at the right.

Indicate your answers by circling the appropriate number.

| | How important is this skill for your present job? (1. OF NO REAL IMPORTANCE, 2. OF SOME IMPORTANCE, 3. OF CONSIDERABLE IMPORTANCE, 4. OF MAJOR IMPORTANCE, 5. OF CRITICAL IMPORTANCE) | How would you evaluate yourself on this skill? (1. NEED MUCH IMPROVEMENT, 2. BELOW AVERAGE, 3. AVERAGE, 4. ABOVE AVERAGE, 5. OUTSTANDING) | Where did you learn most about this skill? (1. HIGH SCHOOL, 2. F.O.S.C., 3. PARK MGT. PROGRAM, 4. APPRENTICE PROGRAM, 5. ON REGULAR JOB, 6. ELSEWHERE) | DO YOU FEEL A NEED FOR MORE INSTRUCTION OR TRAINING IN THIS AREA? |
|---|---|---|---|---|
| COMMUNICATION SKILLS: ability in written and oral expression, effective listening, reading efficiency, use of resource materials and technical report writing. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| MATHEMATICAL SKILLS: the ability to use arithmatic or higher mathematics to solve work problems. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| DENDROLOGY: ability to identify trees and woody plants by more than one criterion (leaves, bark, location, branching habits etc.). | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| PLANT MATERIALS and LANDSCAPE DESIGN: identification, ecological characteristics, uses and value of ornamental plants. Study of basic landscaping designs and elements of making landscape design proposals. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| SURVEYING: construction and reading of topographic maps, ability to establish new and old lines, use of all surveying instruments. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| PUBLIC RELATIONS: those skills involved in merchandising recreational activities and regulating people use of facilities, and visitor relations. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| PARK MANAGEMENT AND OUTDOOR RECREATION: skills in implementing plans and developing outdoor recreation areas, managing, maintaining and operating the recreational enterprises. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| INTERPRETATIVE RECREATION SERVICES: a knowledge of the kinds of outdoor recreation and selection of the recreation enterprise as well as a general knowledge of leisure science and the demand for outdoor recreations. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| PERSONNEL MANAGEMENT: skills and techniques used to supervise and manage workers in forestry and related fields. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| FOREST PROTECTION: understanding of fire, insects and diseases, and abillty to fit into the suppression and detection system. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| FOREST MULTIPLE USE AND CONSERVATION: skill in the multiple use concept as it is applied in practice on forest land in relation to the production of wood products, water, forage, wildlife, and recreation resources. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |
| CONSERVATION OF NATURAL RESOURCES: a knowledge of the dependence of the human population upon natural resources, as well as the role of water, soil, forest, wildlife, rangeland and minerals upon our society. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes No |

OTHER SKILLS: add that which you feel applies to your job and is not covered above_____

PLEASE GIVE YOUR FRANK OPINION ABOUT THE FOLLOWING ITEMS CONCERNING YOUR EDUCATION AT E.O.S.C. BY CHECKING (X) THE APPROPRIATE NUMBER BELOW:

| | LOW (1) | MEDIUM LOW (2) | MEDIUM (3) | MEDIUM HIGH (4) | HIGH (5) |
|---|---|---|---|---|---|
| 1. Quality of instruction from forestry instructors | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 2. Quality of instruction in related subjects. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 3. Condition of laboratory facilities and equipment. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 4. Vocational counseling given to students. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 5. Aid given to students to find jobs. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 6. Opportunities for extra-curricular activities. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 7. Interest shown by instructors in student problems. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 8. Reputation of the Forestry Department in the community. | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |
| 9. Efforts of the Forestry Dept. to keep current. ( up-to-date) | 1 ( ) | 2 ( ) | 3 ( ) | 4 ( ) | 5 ( ) |

Please make any comments you may wish on the reverse side of this questionnaire concerning changes or improvements you would like to see made in the Eastern Oklahoma State College Park Management and Outdoor Recreation program.

Please return to: George H. Brannon, Associate in Research, 406 CLB, Oklahoma State University, Stillwater, Ok., 74074

ALL INFORMATION ON THIS QUESTIONNAIRE WILL BE HELD IN STRICT CONFIDENCE AND USED FOR EDUCATIONAL PURPOSES ONLY

EMPLOYER QUESTIONNAIRE

COMPANY OR FIRM_____ DATE_____

ADDRESS_____ NAME OF EMPLOYEE_____

NAME OF RATING SUPERVISOR_____ DEPARTMENT_____

DEPARTMENT_____ JOB TITLE_____

JOB TITLE_____

For each of the skill areas listed below, answer the questions at the right.

Indicate your answers by circling the appropriate number.

| | How important is this skill to his present job? (1. OF NO REAL IMPORTANCE; 2. OF SOME IMPORTANCE; 3. OF CONSIDERABLE IMPORTANCE; 4. OF MAJOR IMPORTANCE; 5. OF CRITICAL IMPORTANCE) | How would you evaluate him on this skill? (1. FALLS IN THE LOWER 5%; 2. FALLS IN THE LOWER 20%; 3. FALLS IN THE MIDDLE 60%; 4. FALLS IN THE UPPER 20%; 5. FALLS IN THE UPPER 5%) | How does he compare with other entry workers who have had other training? (1. NEEDS MUCH IMPROVEMENT; 2. GENERALLY BELOW AVERAGE; 3. AVERAGE; 4. GENERALLY ABOVE AVERAGE; 5. OUTSTANDING) | DO YOU FEEL HE NEEDS MORE INSTRUCTION OR TRAINING IN THIS AREA? | |
|---|---|---|---|---|---|
| | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | YES | NO |
| COMMUNICATION SKILLS: ability in written and oral expression, effective listening, reading efficiency, use of resource materials and technical report writing. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| MATHEMATICAL SKILLS: the ability to use arithmatic or higher mathematics to solve work problems. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| DENDROLOGY: ability to identify trees and woody plants by more than one criterion (leaves, bark, location, branching habits etc.). | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| PLANT MATERIALS AND LANDSCAPE DESIGN: identification, ecological characteristics, uses, and value of ornamental plants. Study of basic landscaping designs and elements of making landscape design proposals. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| SURVEYING: construction and reading of topographic maps, ability to establish new and old lines, use of all surveying instruments. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| PUBLIC RELATIONS: those skills involved in merchandising recreational activities and regulating people use of facilities, and visitor relations. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| PARK MANAGEMENT AND OUTDOOR RECREATION: skills in implementing plans and developing outdoor recreation areas, managing, maintaining and operating the recreational enterprise. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| INTERPRETATIVE RECREATION SERVICES: a knowledge of the kinds of outdoor recreation and selection of the recreation enterprise as well as a general knowledge of leisure science and the demands for outdoor recreation. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| PERSONNEL MANAGEMENT: skills and techniques used to supervise and manage workers in forestry and related fields. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| FOREST PROTECTION: understanding of fire, insects and diseases, and the ability to fit into the suppression and detection system. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| CONSERVATION OF NATURAL RESOURCES: a knowledge of the dependence of the human population upon natural resources. Also, the role of water, soil, forest, wildlife, rangeland and minerals upon our society. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| FOREST MULTIPLE USE AND CONSERVATION: skill in the multiple use concept as it is applied in practice on forest land in relation to the production of wood products, water, forage, wildlife and recreation resources. | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |
| OTHER SKILLS: add what you feel applies to his job and is not covered above:_____ | 1 2 3 4 5 | 1 2 3 4 5 | 1 2 3 4 5 | Yes | No |

Please make any comments you wish on the reverse side of this questionnaire concerning changes or improvements which you feel would better prepare our students for entry job level in Park Management and Outdoor Recreation.

Please Return to: George M Brannon
Associate in Research
Technical Education, 406 CLB
Oklahoma State University
Stillwater, Ok., 74074

# APPENDIX C

## SELECTED GRADUATE COMMENTS

## SELECTED GRADUATE COMMENTS

"I feel like they should really try and help students more in summer or regular employment in their specific skill [sic]."

"One thing that should be made clear in a technician training program is the over-crowded job market coupled with the fact that the technician will be competing with four-year foresters for the same technician positions [sic]."

"My majors at E.O.S.C. were Parks Management and Aboriculture. My first position after graduation was as a seasonal Recreation Technician with the Bureau of Land Management in western Colorado. The bulk of the position was visitor contact in mostly casual situations, but occasional verbal confrontations. Other duties included supervsion of a contractor, campground maintenance, visitor use data gathering, nature interpretation, enforcement of regulations, off-road vehicles, firewood, grazing and trespass compliance checks and emergency care of injured visitors. Could have used more skills in verbal communications, law enforcement, federal permits and regulations [sic]."

"Need to teach more about office work, budgets, record keeping and red-tape. I worked four years in a park in Florida and was up to my elbows in paper work most of the time [sic]."

# APPENDIX D

## SELECTED EMPLOYER COMMENTS

SELECTED EMPLOYER COMMENTS

"The ability to communicate in a posititve sense, is of vital importance in the position Mr. _____ now holds. It is essential that field level personnel have the ability to project friendly, positive, helpful and professional attitudes to the public [sic]."

"I have seen numerous education enthusiastic students with little or no on-the-job experience, astonished by the reality of what park management personnel are called on to do. I wish that all 'Recreation and Parks' students be required at least one summer in an internship so they could see the reality of dealing with people [sic]."

"May I commend you on your Recreation and Parks Department? I trust you will continue producing top quality students [sic]."

"We are pleased to have Mr. _____ working for the B.L.M. in Salem and consider him a very good forester with potential to advance.

Presently Mr. _____ works with senior foresters in the recon and layout of scheduled timber sales in the coast range mountains of western Oregon [sic]."

"Mr. _____ is expected to be versatile and adaptable to the needs of the job, including working with other employees and take a helpful and courteous attitude in contact with the public [sic]."

# VITA

George Howard Brannon, Jr.

Candidate for the Degree of

Master of Science

Thesis: A FOLLOW-UP EVALUATION OF THE FOREST PARK MANAGEMENT TECHNICIAN PROGRAM AT EASTERN OKLAHOMA STATE COLLEGE

Major Field: Technical Education

Biographical:

Personal Data: Born in Birmingham, Alabama, March 23, 1935, the son of Dr. and Mrs. George H. Brannon, Sr.

Education: Graduated from Poly High School, Long Beach, California, in June, 1953; received Associate of Applied Science degree in Forest Parks Management and Outdoor Recreation from Eastern Oklahoma State College at Wilburton, Oklahoma, in 1975; received Bachelor of Science degree in Technical Education, Specialization: Natural Resource Conservation, from Oklahoma State Univerity at Stillwater, Oklahoma, in 1977; completed requirements for the Master of Science degree in Technical Education, Specialization: Natural Resource Conservation, at Oklahoma State University in December, 1980.

Professional Organizations: The American Forestry Association and The Society of American Foresters.