AN IN-SERVICE FACULTY DEVELOPMENTAL PROGRAM
BASED UPON AN ANALYSIS OF FACULTY
SELF-PERCEIVED DEFICIENCIES IN BOTH
INSTRUCTIONAL AND NON-INSTRUCTIONAL AREAS

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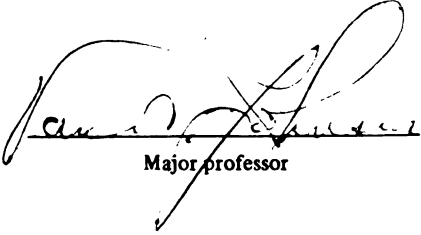1976

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UPON AN ANALYSIS OF FACULTY SELF-PERCEIVED
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ABSTRACT

AN IN-SERVICE FACULTY DEVELOPMENTAL PROGRAM BASED
UPON AN ANALYSIS OF FACULTY SELF-PERCEIVED
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NON-INSTRUCTIONAL AREAS

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The purpose of this study was to develop a faculty in-service training program based upon the areas of instructional and non-instructional weaknesses as indicated by each faculty member's self-perception of his or her teaching deficiencies. Within this purpose, the teaching objectives of each faculty member were also surveyed.

Underlying the investigation were the following assumptions:

1. That the process of education is the essential purpose of the American college system.

2. That the classroom instructor should possess a strong understanding of the discipline in which he or she is teaching.

3. That the classroom instructor should understand the process of the art of teaching, which would include communication, evaluation, motivation, and any other aspect that is essential in this process.

4. That every college and university has as its goal the desire to provide outstanding classroom instruction incorporating competency in both the academic discipline and the dissemination of knowledge to students.

The population of the study included the faculty members employed at Bob Jones University, Greenville, South Carolina, during the 1975-76 school year. A questionnaire containing eight instructional areas, eight non-instructional areas, and five teaching objectives was used as the basic instrument to collect faculty self-perceptions of teaching needs. The instructional areas included audio-visual materials, class preparation, communication theory, course preparation, curriculum theory, evaluating students, presentation, and teaching techniques and style. The non-instructional areas included history of higher education, history of Bob Jones University, advising and counseling students, characteristics of the college student, understanding standardized tests, tests and measurements, academic policies of Bob Jones University, and administrative policies of Bob Jones University. The five teaching objectives included two objectives on the affective areas of learning and three cognitive teaching objectives.

The statistical analysis to determine significant differences between faculty groupings on the instructional, non-instructional, and teaching objectives was accomplished by using the "F" test to compare equality of

variances and the "t" test to compare equality of means. Both tests were two-tailed tests using the .05 level of significance.

Conclusions of the Study

Within the limitations of this research, the following conclusions were supported:

1. An analysis of the instructional areas produced two major areas of need to the faculty, regardless of their academic division, teaching status, seniority, degree level, age, sex, marital status, undergraduate university attended, or predominant teaching area. These two areas were: (1) evaluation of students and (2) communication theory. Evaluation of students would include the development of valid and reliable examinations, use of objective and essay tests, methods of evaluation other than examinations, term projects, and research papers. Communication theory would include developing an understanding of transmittal of thoughts and ideas from teacher to student, overcoming communication obstacles, developing good communication skills, vertical and horizontal communication networks, and an understanding of the purpose and usefulness of the grapevine.

2. The instructional areas of teaching techniques and style and class preparation were indicated to be

necessary elements for the in-service development by graduate assistants.

3. The instructional area of course preparation was indicated to be a necessary element for in-service development for those with only a bachelor's degree.

4. There were three non-instructional areas that faculty ranked high enough to be included in the faculty development program, regardless of their academic division, teaching status, seniority, degree level, age, sex, marital status, undergraduate university attended, or predominant teaching area. These three areas were: (1) advising and counseling students, (2) characteristics of the college student, and (3) tests and measurements.

5. The analysis of faculty teaching objectives indicated that all faculty, regardless of faculty grouping, considered the three cognitive areas of teaching to be the most important teaching objectives. The two affective teaching objectives were consistently ranked either last or next to last in rank order of importance.

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CHAPTER I

THE NATURE OF THE INVESTIGATION

Introduction to the Study

The quality of college teaching is an area that is receiving more attention than ever before in many of the educational journals. The Ph.D. or its equivalent is not necessarily synonymous with quality instruction. Educators are beginning to recognize that the doctoral program many times provides academic proficiency in a discipline but gives little attention to the area of teaching that discipline. As Paul Dressel has written:

> The college student in any given term is fortunate
> if he has one good teacher. Good, defined in his
> own terms, involves profound knowledge of the dis-
> cipline, enthusiasm for teaching, awareness of
> students as individuals, clarity in presentations
> and assignments, fairness in grading, and, perhaps
> above all, an awareness that the course has rele-
> vance beyond the confines of the text, the class-
> room, and campus. The student finds that too many
> of his teachers are indifferent, unavailable, dis-
> organized, unclear, and incoherent in lectures,
> discussions, and assignments.[1]

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[1]Paul L. Dressel and Mary M. Thompson, College
Teaching: Improvement by Degrees, Monograph Thirteen
(Iowa City, Iowa: The American College Testing Program,
1974), p. 1.

Because of this lack of teaching expertise on the part of some university instructors and because the existing Ph.D. programs do little in the area of teaching, it becomes necessary to provide a mechanism whereby faculty can receive the training necessary not only to make them proficient in their academic discipline but also communicators of knowledge.

In a recent study by Peter Seldin,[2] it was shown that classroom teaching is the most important consideration in evaluating faculty. Of 13 evaluation criteria, Seldin found classroom teaching to be the major factor in faculty evaluation. The Astin and Lee[3] study in 1966 rated classroom teaching as the major factor in faculty evaluation, and the Seldin findings not only reaffirm this but also show a slight increase in the extent to which quality of teaching performance is considered a major factor in faculty evaluation. Table 1.1 indicates the comparisons on all 13 factors between the Astin and Lee and the Seldin studies.[4]

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[2]Peter Seldin, How Colleges Evaluate Professors, (New York: Blythe-Pennington, Ltd., 1975), pp. 21-42, 77-78.

[3]Alexander Astin and Calvin Lee, Current Practices in the Evaluation and Training of College Teachers, (Washington, D. C.: American Council on Education, 1967), pp. 361-365.

[4]Seldin, p. 45.

TABLE 1.1--Tests of Differences in Percentages of Response
to Criteria Identified by Academic Deans as "Major Factors"
in Evaluating Overall Faculty Performance as Reported in
the Astin and Lee (1966) Study and the Seldin (1973) Study

		1966 (N = 484) Percentage	1973 (N = 410) Percentage	t
1.	Classroom Teaching	97.6	99.3	2.36
2.	Supervision of Graduate Study	17.8	1.9	8.57
3.	Supervision of Honors Program	14.3	2.9	6.46
4.	Research	31.7	22.2	3.24
5.	Publication	24.5	17.1	2.75
6.	Public Service	16.1	12.9	1.37
7.	Consultation	2.4	0.7	2.36
8.	Professional Societies	23.9	15.8	3.08
9.	Student Advising	46.8	68.8	6.85
10.	Campus Committee Work	32.6	49.5	5.21
11.	Length of Service in Rank	59.9	54.4	1.66
12.	Competing Job Offers	9.8	3.2	4.19
13.	Personal Attributes	61.3	53.2	2.59

t .05 = 1.96

t .01 = 2.57

It is important to recognize that an individual should not go through a concentrated doctoral program simply for the purpose of storing knowledge. Richard Mann has what he considers to be six different styles of teaching that can be very effective and must be understood by the faculty. These are:

The teacher as an expert

The teacher as formal authority

The teacher as socializing agent

The teacher as facilitator

The teacher as ego ideal

The teacher as a person[5]

In all of these areas, Mann is pointing out that a teacher's areas of responsibility go far beyond that of simply being knowledgeable. The teacher must have the ability to transmit this knowledge.

Joseph Axelrod[6] takes a similar view that the instructor cannot neglect the importance of the area of teaching. Axelrod points out that the instructor must focus upon two elements--students and the subject matter-- and the instructor must not only possess the knowledge of the discipline but also must have the ability to communicate this knowledge.

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[5]Richard Mann, Memo to the Faculty, No. 45 (Ann Arbor, Michigan: University of Michigan, August, 1971), p. 2.

[6]Joseph Axelrod, The University Teacher as Artist, (San Francisco: Jossey-Bass, 1973), pp. 10, 12.

In addition to those who have been mentioned, there have been many other writers in the area of higher education who recognize the importance of the area of teaching. Kenneth Eble[7] and Frank Finger[8] both reinforce the emphasis that must be placed on the importance of the area of teaching.

Need for the Study

The previous discussion points out the important role that the understanding of teaching must play in the educational process. There have been some ideas that have been developed to help the college instructor. Wilbert McKeachie[9] has developed a source book of information for the beginning teacher. His approach is a practical one that presents such problems as preparing for a course, selecting books that could be used in the classroom, using the various teaching techniques, understanding the place of media, and other issues involving examinations, grading, motivation, and evaluation. McKeachie's area of emphasis would be directed towards the new instructor after the instructor has completed his or her academic program. There

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[7]Kenneth Eble, Professors as Teachers, (San Francisco: Jossey-Bass, 1972), pp. 25-26, 179-180.

[8]Frank Finger, "Professional Problems: Preparation for a Career in College Teaching," The American Psychologist, No. 24 (November, 1969), pp. 1044-1049.

[9]Wilbert McKeachie, Teaching Tips: A Guide for the Beginning College Teacher, (Lexington, Mass., D. C. Heath, 1969).

are others who would attempt to instill an understanding of the art of teaching while the student is still in the doctoral program. Paul Dressel,[10] for instance, has written extensively on the relatively new doctor of arts degree. This program is a new degree that would hold many of the traditional Ph.D. requirements in place; but, at the same time, would provide for the inclusion of areas that would be more associated with teaching. The two programs just described, one by McKeachie and the other by Dressel, may be very necessary and important areas to consider. This study, however, takes into consideration those faculty members who have not participated in a doctor of arts program and are now in the teaching profession. This study is essentially a study that will develop a faculty in-service training program based on self-perceived areas of weaknesses in teaching. As Dressel[11] points out, "If college teaching is to be regarded as a profession, then the education of a college teacher should include experiences which will develop the necessary insights and competencies." Dressel suggests effective teaching should include:

1. Knowledge in depth of some body of content, its structure and methodologies, and ability to present it effectively to students;

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[10]Paul L. Dressel and Frances H. Delisle, Blueprint for Change: Doctoral Programs for College Teachers (Iowa City, Iowa: American College Testing Program, 1972), pp. 16-17.

[11]Ibid., pp. 12-13.

2. Sensitivity to student concerns and motivations
   and ability to interpret the teacher's field
   and its implications in such a way as to arouse
   student interest;

3. Awareness of the relation of his discipline
   to other disciplines and to the current social
   scene, and acceptance of the obligation of
   communicating these relationships to students;

4. A clear conception of the objectives to be
   obtained by students taking the teacher's
   courses and the ability to plan experiences
   obviously relevant to the attainment of these
   objectives;

5. Awareness of the learning process and of
   individual differences in interest and ability
   such that adaptations of assigned tasks and
   expectations can be made;

6. Development of feedback procedures whereby
   the teacher and each of the students are kept
   informed as to progress;

7. Definitions of standards to be achieved by
   students and encouragement of students to
   accept, interpret, and assume some personal
   responsibility for their attainment;

8. Sensitivity to the values and preconceptions
   implicit in the teacher's discipline and in
   the applications of its principles and con-
   cepts to social and personal problems;

9. Continuing scholarly activity which keeps
   the teacher abreast of new developments in
   his or her field;

10. Awareness of the role which the teacher's
    course plays in the total undergraduate
    educational experience and acceptance of
    responsibility to help the student integrate
    his experiences in the course with other
    aspects of his education.

Given these teaching objectives, it then becomes

the responsibility of any given college or university to

be able to provide the learning experience for its

existing instructional staff that they may be able to develop a set of teaching competencies.

Statement of Purpose

The purposes of this study were as follows:

1. To determine the areas of instructional and non-instructional weaknesses as indicated by each faculty's self-perception of his or her teaching needs.

2. To determine the teaching objectives of each faculty grouping.

3. To develop a faculty in-service training program based on the faculty member's indication of the areas of instructional and non-instructional weaknesses that will overcome these deficiencies.

Self-evaluation is not new to higher education. Richard Miller[12] gives his support to the concept of self-evaluation but agrees with Simpson[13] that the educator must understand the process of self-evaluation. Mayhew's[14] only objection to self-evaluation was that it not be used as the main basis for determining academic rank or setting

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[12]Richard C. Miller, _Evaluating Faculty Performance_, (San Francisco: Jossey-Bass, 1972), pp. 35-38.

[13]R. H. Simpson, _Teacher Self-Evaluation_, (New York: The MacMillan Company, 1966), pp. 47-56.

[14]L. B. Mayhew, "A Tissue Committee for Teachers," _Improving College and University Teaching_, XV (Winter, 1967), 5-10.

compensation. The purpose of this study will not violate Mayhew's reservations.

If faculty are required to attend in-service training sessions, what better motivational technique to assure attentiveness and participation than to provide workshops based on areas that faculty requested be included in order that they might become better teachers?

Hypothesis

Since this is a descriptive study, there is no hypothesis in the traditional sense. Because of the need to compare population means between various faculty groupings, there will be, however, many hypotheses tested throughout Chapter Four.

Underlying Assumptions of This Study

The following observations seem to be reasonable assumptions upon which this study may be based:

1. That the process of education is the essential purpose of the American College System.

2. That the classroom instructor should possess a strong understanding of the discipline in which he or she is teaching.

3. That the classroom instructor understand the process of the art of teaching--communicating, evaluating, motivating, assisting, and any other area that is vital in this process.

4. That every college and university has as its
    goal to be able to provide outstanding class-
    room instruction, incorporating competency in
    both the academic discipline and the dissemi-
    nation of knowledge to students.

Overview of Subsequent Chapters

In Chapter Two, pertinent literature and related
studies will be discussed while in Chapter Three, the
design of the study, the instrument, procedure and col-
lection of data, and statistical methodology will be
treated. Chapter Four will be devoted to an analysis of
the data, which will, in turn, be summarized and inter-
preted in Chapter Five. Implications and recommendations
will also be found in Chapter Five.

Summary

In summation, background and need of the study,
statement of purpose, underlying assumptions, were treated
in Chapter One. This chapter closed with an overview of
subsequent chapters.

CHAPTER II

RESEARCH AND LITERATURE RELATED TO THE IMPORTANCE OF FACULTY DEVELOPMENT PROGRAMS AND THE IMPROVEMENT OF TEACHING

Introduction

Faculty development is becoming an area that is receiving more attention in the professional journals. Many books and articles have been written on the subject of faculty development. As William Bergquist has recently written, "All faculty development programs have reflected three basic propositions: (1) Teaching is an important aspect of the college faculty member's professional role and hence should be highly valued, (2) Teaching is frequently not a serious concern in the training of college faculty, (3) Teaching is often neglected in issues of promotion and tenure. Most faculty development programs take note of these three propositions by offering some activities which acknowledge the validity of the first, but which do little to overturn the second two."[1]

Many faculty development programs that have tried to improve teaching have done so by using indirect

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[1]William H. Bergquist and Steven R. Phillips, A Handbook for Faculty Development (Washington, D. C.: The Council for the Advancement of Small Colleges, 1975), p. 3.

techniques that do not directly involve teaching. For instance, in past years efforts to improve teaching have included such items as establishing a media center, reducing the number of students in each class, changing the curriculum, being more selective on the admission of students, self-analysis, and many other techniques that have not challenged the area of teaching itself. In 1966, the American Association of University Professors issued a statement on professional ethics. Of the five areas that they included in this statement, one of these areas was The College Teacher's Obligations and Responsibilities to His Institution. As the AAUP describes this area, they indicate that the college teacher should "seek to be an effective teacher and scholar."[2]

Review of Selected Studies to Improve College Teaching Through Faculty Development Programs

In 1976, the Southern Regional Education Board published their study on faculty evaluation procedures in Southern colleges and universities. As shown on Table 2.1, the two prime reasons for faculty evaluation were (1) faculty development and (2) information on faculty's teaching effectiveness. Faculty development was ranked either first or second by 84% of those responding to the questionnaire.

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[2]"Statement on Professional Ethics," *American Association of University Professors Bulletin*, LV (March, 1966), 57-58.

TABLE 2.1--Percentage Distribution of Ranks Assigned to
Each Reason for Faculty Evaluation by Distribution Rank

Reasons for Evaluation	Percentage of Distribution Ranks						
	1st	2nd	3rd	4th	5th	None	Total
Faculty Development	54%	30%	11%	2%	0%	3%	100%
Information on Own Teaching Effectiveness	46	33	13	4	1	3	100
Information for Decisions on Advancement	36	24	27	6	2	5	100
Equity of Employment Practices	3	13	17	23	20	24	100
Research Data	1	8	24	27	19	22	100

Teaching effectiveness was ranked either first or second
by 79% of those responding. As shown on Table 2.2., fac-
ulty development at institutions that grant only the
bachelor's degree received the highest response for having
an evaluation program.[3]

Table 2.3 shows that the input for faculty develop-
ment at the institutions in the Southern Regional Education
Board study include ideas of the evaluated faculty member.

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[3]James E. Boyd and E. F. Schietinger, Faculty
Evaluation Procedures in Southern Colleges and Universi-
ties, (Atlanta, Georgia: Southern Regional Education
Board, 1976), pp. 6-7.

TABLE 2.2--Percentage of Institutions Assigning First Rank
to Respective Reasons for Evaluation by Institutional Level

Reasons for Evaluation	Percentage of Institutions Assigning First Rank			
	Doctoral	Master's	Bachelor's	Two-Year
Information for Decisions on Advancement	62%	50%	41%	18%
Faculty Development	38	40	56	66
Information on Own Teaching Effective-ness	35	52	37	53
Equity of Employ-ment Practices	6	1	5	1
Research Data	0	0	1	2

Obtaining input from the faculty member was one of the four
most frequent methods of developing a faculty in-service
program.[4]

The Southern study also examined a faculty evalua-
tion program at a privately controlled, co-educational
liberal arts college. At this school, there were two cate-
gories of evaluation efforts within the career development
program. These two were self-development evaluation and
performance evaluation. The self-development evaluation
was a plan designed to help the faculty member in his

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[4]Ibid., p. 13.

TABLE 2.3—Assignment of Principal Evaluation Responsibility for Faculty Development, Number of Institutions

Source of Principal Responsibility	For Faculty Development
Academic Dean or Vice President	167
Department Chairman	167
President or Provost	10
Faculty Committee	13
Students	67
Colleagues	9
Self	21
Peers (other institutions)	2
Joint Student-Faculty Group	1
Alumni	4
Other	2
No Response	72
Total	536

efforts to improve his skills and to maintain strength in those areas where he has already achieved expertise. The performance evaluation consisted of the following areas:

    1. Teaching Effectiveness

    2. Relationship to Students Inside and Outside Classes

    3. Advising

    4. Inter-Disciplinary Teaching in College-Wide Courses

5. Research and Scholarship

6. Participation in Profession

7. Involvement With Student Activities in Campus Programs

8. College Community Government and Leadership

9. Participation in Recruitment and Development Efforts

10. Participation in Civic Affairs, Church Activities and Public Relations[5]

As can be seen from the above topics, teaching and its interrelationship to other areas are major reasons for faculty development.

There have been other programs that have been instituted to develop the other aspects of a faculty member's training to help make him a more effective teacher. One of these programs is by Dr. Frank W. Finger, of the University of Virginia. His program consists of an optional two-semester graduate seminar entitled "Professional Problems." This course is taken while the student is in his final stages of the doctoral program in psychology. Meetings are conducted weekly in an informal setting, and each student explores one of the many topics that Dr. Finger has on the agenda throughout the seminar. The topics covered essentially include the following subject matter:

1. Introduction: University of Virginia, Professional Problems Seminar

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[5]Ibid., pp. 27-28.

2. The Fields of Psychology

3. History of Academic and Professional Psychology, Organization

4. History of Higher Education

5. The Government of College and Universities

6. Types of Institutions

7. Academic Freedom and Tenure

8. Student Rights and Responsibilities

9. Objective of Higher Education; the Concept of Liberal Education

10. Varieties of Curriculum

11. Course Planning

12. Techniques of Instruction

13. Practicum in Teaching

14. Evaluation of Learning: Examining and Grading

15. Evaluation of Teachers and Teaching

16. Student-Faculty Relations

17. The Professional Market Place

18. Personnel Problems

19. Information Stories and Retrieval

20. Financial Resources for Higher Education and Research

21. Social Control: Ethics Accreditation, Legislation[6]

As can be seen from the topics described above, Finger is seeking to give the potential college instructor an understanding of the areas involving teaching.

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[6]Finger, pp. 1044-1049.

Milton Hildebrand of the University of California at Davis has a similar program in the area of biology. Hildebrand's program is directed toward the graduate student who will be entering the teaching profession upon completion of his graduate program. Some of the contents and emphasis of his program include the following:

1. What is Teaching?

2. What is Effective Teaching?

3. Objectives of Teaching

4. Ways to Improve One's Teaching

5. How is Teaching Evaluated?

6. How Should it be Evaluated?

7. Factors Influencing Learning

8. The Curriculum in Biology

9. The Preparation of a Course: Selection of Subject Area, Objectives, Method of Presentation, Students, and Texts

10. The Preparation of Lectures: The Lecture as a Unit, Structure, Relation to Text and Lab, Use of Notes, Timing

11. Examinations: Objectives, Kinds, Characteristics of Good Examinations, Kinds of Questions, Arrangement of Questions, Deriving the Desired Distribution of Scores

12. Grading: Accuracy versus Validity, Alternative Methods, Procedures, Recording and Reporting

13. Teaching by Discussion: Objectives, Advantages, Preparation, Procedures

14. Teaching in the Laboratory

15. Counseling: Objectives, Alternative Systems, Procedures

16. The Creative Elements in Teaching, The Rewards for Effective Teaching

In addition to these activities, each student is required to turn in four of the five following assignments:

1. Prepare in detail the curriculum in biology at your ideal college.

2. Prepare in detail the course you would like most to teach.

3. Prepare in detail one lecture in your course.

4. Prepare a mid-term examination for your course.

5. Write an essay on any other subject relevant to this course (e.g., evaluation of teaching, nature of teaching-learning process, objectives of teaching, programmed teaching, etc.).[7]

It should also be noted that Dressel in one of his publications on improving college teaching included both the Finger and Hildebrand studies in his analysis.[8]   In this same publication of Dressel, he included an analysis of the preparation for college teaching that has been developed in the programs of the Carnegie grant institutions.   Some of the topics that are used in these institutions to help prepare a doctoral student for teaching include courses on the history and philosophy of higher education, psychology of learning, observing college

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[7]Donald S. Dean, <u>Preservice Preparation of College Biology Teachers: A Search for a Better Way.</u> (Washington, D. C.:   The Commission on Undergraduate Education in the Biological Sciences, 1970), pp. 97-98.

[8]Dressel and Delisle, pp. 52-60.

teaching, teaching methods and techniques, research in education, and many specific programs designed to help the doctoral student prepare to teach his discipline.[9]

The doctoral dissertation completed by Joseph DeOrdio involved the development of a faculty development program at Kansas State University. DeOrdio's dissertation explored the development of college faculty, both individually and as a group. He found that there is a great need in higher education for a greater commitment to the process of faculty development. The typical graduate student does not receive proper preparation in learning theory or instructional methods. In his dissertation, he developed a pilot program for in-service training. The major areas of the program included:

1. A faculty seminar on effective instruction

2. Videotaping and playback of classroom presentations

3. Formal instruction on the principles of college teaching

The response to the program at Kansas State University was favorable and well accepted.[10]

In another doctoral dissertation completed in 1969, Douglas Engel found that faculty developmental programs

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[9]Ibid., pp. 61-62.

[10]Joseph P. DeOrdio, "Faculty Development in Higher Education: Conceputalization and a Pilot Program" (unpublished Ph.D. dissertation, Kansas State University, 1970).

generally enjoyed strong support, especially from in-structional media departments. He also found that many developmental policies concerning in-service training were established by a committee on academic affairs and most programs had continuing administrative support.[11]

The Chronicle of Higher Education in 1973 summarized the results of a study designed to determine the characteristics of college teachers. The items that faculty considered essential or very important in their teaching of undergraduates included the following:

1. To develop in the student the ability to think clearly

2. To have the student master knowledge in a discipline

3. To increase in the student the desire and ability to undertake self-directed learning[12]

As can be seen with the three above items, faculty consider teaching of the discipline and the ability to get the students to be self-motivated to be essential items in their teaching of undergraduates.

Summary

Thus, the preceding discussion of the related literature and the recent studies on faculty development

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[11]Douglas J. Engel, "A Study to Determine the Status of Institutional Development Program" (unpublished Ed.D. dissertation, Indiana University, 1969).

[12]"Characteristics of 42,345 College Teachers," Chronicle of Higher Education, August 27, 1973.

attempted to establish some background for the study by

the following:

1. Focusing attention on the importance that teaching is now receiving in the many articles and books that are being published.

2. Calling attention to the recent studies that have shown faculty development programs to be essential in improving the performance of college teaching.

3. Highlighting the fact that there are movements underway to develop an understanding of teaching at the graduate level while the student is still in the doctorate program, thus emphasizing the importance of developing an understanding of the teaching process before the student finishes a doctoral program.

It is hoped that this study will contribute the

kind of information which will help not only Bob Jones

University but other universities as well in developing

a faculty in-service training program that will improve

the quality of instruction and its subsequent learning

on the part of the student. Bergquist and Phillips put

it this way:

> A comprehensive program of faculty development is consequently one which provides training for faculty in improved classroom performance, which assists the faculty member in developing a supportive environment within his academic organization, and which allows him to examine and reflect on his own personal values and attitudes as they influence his professional life. Instructional development, organizational development, and personal development thus become the essential components of any effective program of faculty development.[13]

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[13]Bergquist and Phillips, p. 6.

CHAPTER III

PROCEDURES USED IN THE STUDY

Introduction

The purposes of this study were (1) to determine the areas of deficiency on the part of the faculty in both instructional and non-instructional areas and (2) to develop an in-service training program based upon faculty's self-perceived areas of need. The primary intent of this chapter is to describe the research design and the procedures used in this study.

Sources of Data

The population from which the sample was drawn consisted of faculty members presently employed at Bob Jones University, Greenville, South Carolina. This population was chosen since the faculty in-service program will be developed at Bob Jones University using the input from these faculty members.

The basic instrument used to collect faculty self-perceptions of teaching needs was a questionnaire (Appendix A). The questionnaire was designed to have faculty make a self-analysis in the instructional and non-instructional areas that they felt should be included in any faculty

in-service training program, based upon their particular
needs. The instructional areas included:

Audio-Visual Materials

Class Preparation

Communication Theory

Course Preparation

Curriculum Theory

Evaluating Students

Presentation

Teaching Techniques and Style

The non-instructional areas included:

History of Higher Education

History of Bob Jones University

Advising and Counseling Students

Characteristics of the College Student

Understanding Standardized Tests

Tests and Measurements

Academic Policies of Bob Jones University

Administrative Policies of Bob Jones
University

The questionnaire also was designed to determine
the teaching objectives of each faculty member. These
teaching objectives were designed to go from the affective
to the cognitive areas of teaching. Of the five teaching
objectives included in the questionnaire, two of these
objectives were affective areas while three were cognitive
areas. These teaching objectives were adapted from Paul

Dressel's chapter on Conceptions of College Teaching.[1]

The teaching objectives are shown below:

Develop or reinforce a student's own value system
and have the student sensitive to the values of
others.

Provide the student with a learning experience
that can be used in almost any academic endeavor.

Provide for student mastery of subject matter
through the acquisition and assimilation of knowledge.

Instill in the student a sense of accomplishment
and satisfaction in giving the student something
he can identify as being necessary for his life's
work.

Develop in the student an awareness to identify,
analyze and formulate solutions to problems.

The questionnaire also asked each faculty member to
indicate his preferred time of attending in-service train-
ing.

As shown on Table 3.1, there were 253 questionnaires
distributed and 228 questionnaires returned. This repre-
sents a 90.1 percent response rate. Of the five academic
divisions, the College of Arts and Science had a 94.9%
return, the School of Business Administration a 91.7%
return, the School of Education a 93.8% return, the School
of Fine Arts a 83.3% return, and the School of Religion
a 93.5% return.

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[1]Paul Dressel, pp. 50-59.

TABLE 3.1--Percentage of Returned Questionnaires by
Academic Division of the University

Academic Division	Distributed	Returned	Percent Returned
College of Arts and Science	98	93	94.9%
School of Business Administration	12	11	91.7%
School of Education	16	15	93.8%
School of Fine Arts	96	80	83.8%
School of Religion	31	29	93.5%
N =	253	228	90.1%

Design of the Study

As indicated previously, the basic instrument used
for the collection of data was the questionnaire. A pilot
study of the questionnaire was administered to some of the
faculty in the School of Education in order to eliminate
ambiguities and redundancy. After this was completed,
with the recommended changes incorporated as appropriate,
an announcement of the study was made at one of the weekly
faculty meetings. These faculty meetings are attended by
nearly all faculty within the university. The announce-
ment was to make all faculty members aware of the purpose
of the questionnaire that they would soon be receiving.
The questionnaire and a cover letter were then mailed to

all instructional staff within the university two days
following the verbal announcement at the faculty meeting.
The questionnaire contained a code number on the last page
in order that follow-up action could be taken on those who
had not responded to the first mailing. At the next
weekly faculty meeting a second announcement was made to
encourage all those who received the questionnaire to
complete and submit it as soon as possible. The response
to the questionnaire was gratifying, as evidenced by the
90.1% return rate.

Procedures

After the returned questionnaires were reviewed
for accuracy and completeness, they were processed on a
Burroughs 1700 data processing system. The tabulated data
were then analyzed by each faculty grouping; i.e., area of
university, teaching status, seniority, highest degree
completed, age, sex, marital status, undergraduate uni-
versity, and teaching area. Within each grouping, the
eight instructional areas, eight non-instructional areas,
and five teaching objectives were given relative rank
scores from 1 to 8 or 1 to 5 based on the mean rank score
of each item in relation to the mean rank score of all
other items within each faculty grouping. The relative
rank scores, shown on Appendix B, then became the basis
for determining those areas requiring further analysis.

The statistical analysis was to determine if one faculty grouping considers an instructional area, non-instructional area, or teaching objective as having a greater or lesser importance than a second faculty grouping. If two faculty groupings do view the in-service needs differently, it would then be necessary to develop different training sessions to meet the differing needs of faculty groups.

Differences between two groups could be caused by different mean responses or by different variances. These two differences can be tested by the standard t-test and the standard F-test. The normal assumptions of these two tests are:

1. An infinite population in relation to sample size
2. A random sample from that population
3. Normality of the sample; or, in the case of large sample statistics, asymptotic normality.

Because of the large response to the questionnaire, the infinite population in relation to sample size has not held true. However, the corrected variance for a finite university is $\frac{N - n}{N}$ x the actual variance. Here, N equals the size of the universe and n equals the size of the sample. As the sample size n approached the universe size N, the variance would approach zero. This would cause the t-score to approach infinity since the variance is in the denominator. (Hence, any difference between the

sample means would be significant in the ultimate case of
n = N.) Therefore, disregarding the universe size results
in a conservative t-score, any significant t-score is sig-
nificant, but any t-score that did not test significant
could still be significant. This means the type 1 error
of rejection of the conclusion when the conclusion should
have been accepted is very small, giving confidence that
the results stated in Chapter Four were correct.

The random sample assumption is essentially needed
to assure that the universe is accurately reflected by the
sample. The problem is compounded by the use of a rank
scale of one to eight and one to five, which reflects
feelings on an issue. Feelings are themselves random,
which then provide a random sample of people, each giving
a random response to the questions. Because of the large
response and the use of the cumulative statistics, mean
and variance, the sample could be said to reflect the
response of the whole.

Although some of the assumptions associated with
standard statistical analysis were ultimately inconse-
quential, statistical analysis was still necessary to
verify apparent variances. There is a large sample size
in relation to universe size, but this still does not
account for all faculty. Although ninety percent of the
faculty responded, there were still ten percent that did
not. Further, the randomness of the response leads to
rejection of the deterministic model. It does show,

however, that statistics is not as important as it would have been had the sample been smaller.

Other statistical tests that were considered were:

1. A standard chi square test that would have tested the differences between two groups, each with eight cells. This test would have only told differences and would not have given relative rank between the differences.

2. A multiple range test or analysis of variance. These tests have the fundamental disadvantage of indicating differences without being specific where the differences would be.

As shown from the above analysis, the standard t-test and the standard F-test thus become adequate statistical tests to use in determining differences between two faculty groupings. The t-test was used to compare the equality of means and the F-test was used to compare the equality of variances. Both tests were two-tailed tests and used the .05 level of significance in all statistical analyses.

Summary

The preceding pages of Chapter Three have described the procedures, methods, and sources of data used to develop a faculty in-service program based upon self-perceived areas of weaknesses in both instructional and non-instructional areas. The population chosen was the

faculty at Bob Jones University. This group had a response rate of 90.1% on the questionnaire that was distributed. All faculty groupings were included in the study, which included full-time, part-time, and graduate assistants, both male and female, all age groups from 21 through over 60, various levels of seniority, bachelor's, master's, and doctoral faculty, and all of the various teaching areas within the university. An analysis of the data collected will be described in the following chapter.

CHAPTER IV

ANALYSIS OF DATA

Introduction

This chapter contains the analysis of the data
gathered to develop a faculty in-service training program
based on self-perceived weaknesses in both instructional
and non-instructional areas. The chapter is divided into
three sections:

Section 1   Analysis of instructional areas by
             the various faculty classifications

Section 2   Analysis of non-instructional areas
             by the various faculty classifica-
             tions

Section 3   Analysis of teaching objectives by
             the various faculty classifications

Because of the time restrictions associated with
an in-service program, only those instructional and non-
instructional items receiving relative rank scores of 1,
2, or 3 were analyzed in detail. Those responding to the
questionnaire were aware that the more necessary items
should be ranked with scores of 1, 2, or 3, while non-
essential items would receive lower rank score ratings.

Operational Definitions and Symbols

Mean Rank — This is the average rank score of any faculty area. The individual faculty ranks are totaled and divided by the N.

Relative Rank — This is the position of importance of the instructional or non-instructional area on a rank order scale of 1 to 8. Relative rank of 1 indicates the item to be the most important area, relative rank of 2 indicates the item to be the second most important area, and continued on to a relative rank of 8, which is the least important area.

$U_{a\ \&\ s}$ — Mean rank score of Arts and Science faculty

U_{al} — Mean rank score of faculty who teach ancient languages

U_{b} — Mean rank score of faculty with bachelor's degree

U_{bju} — Mean rank score of faculty with an undergraduate degree from Bob Jones University

U_{bus} — Mean rank score of Business faculty

U_{c} — Mean rank score of faculty who teach in cinema

U_{d} — Mean rank score of faculty with doctorate

U_{e} — Mean rank score of Education faculty

U_{f} — Mean rank score of female faculty

U_{fa} — Mean rank score of Fine Arts faculty

U_{ft} — Mean rank score of full-time faculty

U_{ga} — Mean rank score of graduate assistants

U_{m} — Mean rank score of faculty with master's degree

U_{ma} — Mean rank score of male faculty

U_{mar} — Mean rank score of married faculty

U_{ms} — Mean rank score of faculty that teach mathematics

$U_{non-bju}$ Mean rank score of faculty who do not have an undergraduate degree from Bob Jones University

U_{pt} Mean rank score of part-time faculty

U_r Mean rank score of Religion faculty

U_s Mean rank score of single faculty

U_{st} Mean rank score of faculty who teach in speech theory

$U_{<2}$ Mean rank score of faculty with less than 2 years teaching

U_{2-5} Mean rank score of faculty with 2 to 5 years teaching

U_{6-10} Mean rank score of faculty with 6 to 10 years teaching

U_{11-15} Mean rank score of faculty with 11 to 15 years teaching

U_{16-20} Mean rank score of faculty with 16 to 20 years teaching

$U_{>20}$ Mean rank score of faculty with more than 20 years teaching

U_{20-29} Mean rank score of faculty ages 20 to 29

U_{30-39} Mean rank score of faculty ages 30 to 39

U_{40-49} Mean rank score of faculty ages 40 to 49

U_{50-59} Mean rank score of faculty ages 50 to 59

$U_{>59}$ Mean rank score of faculty over 59 years of age

Section 1 - Analysis of Instructional Areas

Analysis of Instructional Areas by Academic Division

Within the academic division faculty grouping, there were four areas that received relative rank scores high enough to justify analysis: Evaluating Students, Communication Theory, Audio-Visual Materials, and Course Preparation.

Evaluating Students   Three of the five academic divisions in the university ranked this instructional area the most necessary item to be included in any faculty in-service program. As shown in Table 4.01, the other two academic divisions both ranked this item third out of a possible eight. Although education and religion faculty ranked this item third, it must be determined whether there was a significant difference in the mean rank of these two divisions compared with the mean rank of the other three divisions, arts and science, business, and fine arts. The t-test of equality of means is symbolically written in the following manner:

$$H_0 : U_r = U_{fa}$$
$$H_1 : U_r \neq U_{fa}$$

The hypothesis compares only fine arts and religion. This can be accomplished since the most extreme values are used in the comparison. If the null hypothesis is accepted at the most extreme values, then any value less than the extreme would also be accepted. H_0 is

TABLE 4.01--Rank Frequency of Evaluating Students by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	22	2	2	20	6
2	15	3	4	16	3
3	21	0	2	18	2
4	9	0	0	8	3
5	12	3	1	8	7
6	5	3	2	1	2
7	7	0	3	5	5
8	2	0	1	4	1
N=	93	11	15	80	29
Mean Rank	3.3	3.7	4.1	3.1	4.1
Relative Rank	1	1	3	1	3

rejected since the test statistic t = 2.20 was greater than the critical value of 1.96 (two-tailed test at the .05 level of significance). The alternate hypothesis is then accepted. Because H_1 was accepted, it was necessary to then compare religion with the second most extreme value:

$$H_2: U_r \neq U_{a \& s}$$

This hypothesis was rejected because the test statistic t = 1.94 was less than the critical value of 1.96. In summary, there was no significant difference

in mean rank scores of religion faculty and arts and
science, business and education; but there was a signifi-
cant difference between religion and fine arts. There
were no differences at the .05 level of significance when
comparing equality of variances between any of the aca-
demic divisions.

Evaluating students was shown to be an important
area of concern regardless of the faculty member's aca-
demic division.

Communication Theory   Table 4.02 shows that
three of the five academic divisions, arts and science,
business and fine arts, ranked this item with a relative
rank score of 2, while education and religion faculty gave
communication theory the highest relative rank score of 1.
Although there are differences in both mean rank scores
and relative rank scores between the five academic divi-
sions concerning communication theory, it must be deter-
mined whether there was a significant difference in these
mean scores. The t-test of the equality of means is
symbolically written in the following manner:

$$H_0 : U_{a \& s} = U_{fa}$$
$$H_1 : U_{a \& s} \neq U_{fa}$$

The hypothesis compares only arts and science
faculty and fine arts faculty. Again, this can be done
since the most extreme values are used in the comparison.
If the null hypothesis is accepted, then all the other

TABLE 4.02--Rank Frequency of Communication Theory by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	19	2	6	17	5
2	20	1	2	10	7
3	9	2	1	8	1
4	15	2	1	11	5
5	8	1	2	8	5
6	13	2	2	6	1
7	7	0	0	17	4
8	2	1	1	3	1
N =	93	11	15	80	29
Mean Rank	3.5	3.9	3.1	4.0	3.8
Relative Rank	2	2	1	2	1

academic divisions that have values between arts and science and fine arts would also have equality of means. In this case, the null hypothesis was accepted since the test statistic t = 1.52 was less than the critical value of 1.96. Because the null hypothesis was accepted, it was not necessary to test the equality of means between any other academic divisions.

There were no significant differences in mean rank scores between any of the academic divisions concerning the instructional area of the communication theory.

<u>Audio-Visual Materials</u>   Only one of the five academic divisions ranked this instructional category high enough to justify analysis. As shown in Table 4.03, the

TABLE 4.03--Rank Frequency of Audio-Visual Materials by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	12	1	1	8	8
2	10	1	1	10	4
3	6	2	5	6	3
4	8	3	1	12	2
5	13	0	3	10	2
6	13	1	1	9	2
7	8	2	0	9	3
8	23	1	3	16	5
N =	93	11	15	80	29
Mean Rank	5.0	4.5	4.5	4.9	4.0
Relative Rank	6	5	5	6	2

School of Religion ranked audio-visual materials instruction as being the second most important area in a faculty development program. The other academic divisions gave this instructional area a relative rank of either five or six, which is extremely low considering there are only eight instructional areas. The important question,

however, was whether the mean rank score by the faculty in
the School of Religion was significantly different than
the mean rank scores of the other areas of the university.
The t-test of the equality of means is symbolically written
in the following manner:

$$H_0 : U_r = U_{a \& s}$$
$$H_1 : U_r \neq U_{a \& s}$$

Religion was measured against arts and science
faculty since the difference in the mean scores is greatest
between faculty in the School of Religion and faculty in
the College of Arts and Science. If the null hypothesis
was accepted for equality of means between religion and
arts and science, the hypothesis would also then be true
comparing the equality of means between religion faculty
and any of the other remaining divisions. In this statis-
tical analysis, the null hypothesis was accepted because
the test statistic t = 1.85 was less than the critical
value of 1.96.

There were no differences at the .05 level of sig-
nificance when comparing equality of variances between
religion faculty and any of the other academic divisions.
Although religion faculty ranked audio-visual materials
with a relative rank of 2, the mean rank score of religion
faculty was not significantly different from the mean rank
score of any of the other academic divisions.

Course Preparation   All of the academic divisions, with the exception of the School of Fine Arts, ranked course preparation as being relatively unimportant. The School of Fine Arts, however, ranked this instructional category 3 out of a possible 8. The rankings of the other academic divisions ranged from 4 to 6, with three of the academic divisions ranking this item 6 out of 8. It must be determined whether the fine arts mean rank score is significantly different from the mean rank scores of the other areas of the university. The t-test of the equality of means is symbolically written in the following manner:

$$H_0 : U_{fa} = U_e$$
$$H_1 : U_{fa} \neq U_e$$

The School of Fine Arts was measured against the School of Education since the difference in mean scores was greatest between fine arts and education. The null hypothesis in this analysis was accepted because the test statistic t = 1.59 was less than the critical value of 1.96. Because the null was accepted at the extreme values, it will not be necessary to analyze the mean scores of fine arts and the other academic divisions.

There were no differences at the .05 level of significance when comparing equality of variances between fine arts faculty and any of the other academic divisions. Although Table 4.04 reflects a marginal mean rank score for fine arts faculty, there was no significant difference

between the mean rank score of fine arts faculty and the mean rank scores of any of the other academic divisions.

TABLE 4.04--Rank Frequency of Course Preparation by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	6	0	2	7	2
2	16	2	2	16	2
3	14	2	0	8	3
4	13	3	2	13	7
5	9	0	0	15	3
6	16	0	4	13	8
7	12	3	3	5	3
8	7	1	2	3	1
N =	93	11	15	80	29
Mean Rank	4.4	4.6	5.0	4.1	4.7
Relative Rank	4	6	6	3	6

Analysis of Instructional Areas by Teaching Status

Within the teaching status faculty grouping, there were four areas that received relative rank scores high enough to justify further analysis: Evaluating Students, Communication Theory, Teaching Techniques, and Class Preparation.

<u>Evaluating Students</u>   As shown on Table 4.05,
all three classifications, full-time, part-time, and
graduate assistant, ranked evaluating students the most
important item in any faculty in-service training program.
All three classifications ranked evaluating students first

TABLE 4.05--Rank Frequency of Evaluating Students by
Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	32	12	8
2	20	12	9
3	35	6	2
4	16	2	2
5	19	3	9
6	6	4	3
7	14	2	4
8	6	1	1
N =	148	42	38
Mean Rank	3.5	2.9	3.7
Relative Rank	1	1	1

with their mean rank scores ranging from 2.9 to 3.7. The
t-test of equality of means is written in the following
manner:

$$H_0 : U_{ga} = U_{pt}$$
$$H_1 : U_{ga} \neq U_{pt}$$

The null hypothesis in this instance was accepted since
the test statistic t = 1.54 was less than the critical
value of 1.96.

Communication Theory   Full-time and part-time
teaching faculty ranked communication theory the second
most important item that should be included in any in-
service faculty training program. As shown on Table 4.06,
graduate assistants, however, ranked communication theory
third in importance. To check the equality of means
between graduate assistants and full-time and part-time
faculty, the hypothesis is written in the following
manner:

$$H_0 : U_{ga} = U_{ft}$$
$$H_1 : U_{ga} \neq U_{ft}$$

Although there was a difference in relative rank
scores between graduate assistants (relative rank score of
3) and full- and part-time instructors (relative rank score
of 2), there was no significant difference in their mean
rank scores. The test statistic of t = 0.97 was less than
the critical value of 1.96. The null hypothesis was then
accepted--there were no differences between full-time,

TABLE 4.06--Rank Frequency of Communication Theory by
Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	31	10	8
2	28	7	5
3	15	3	3
4	22	5	7
5	17	6	1
6	14	5	5
7	15	5	8
8	6	1	1
N =	148	42	38
Mean Rank	3.7	3.7	4.1
Relative Rank	2	2	2

part-time, and graduate assistant teaching staff concerning

the instructional area of communication theory.

Teaching Techniques   Graduate assistants ranked

teaching techniques a relative rank score of 2. Full-time

and part-time instructional staff gave this instructional

category a relative rank score of 4 and 6, respectively.

Because of the newness of teaching, graduate assistants may

well believe teaching techniques instruction to be very

important to them since they have essentially never taught.

In comparing the equality of means between graduate

assistants and the other two teaching classifications, the hypothesis is written in the following manner:

$$H_0 : U_{ga} = U_{pt}$$

$$H_1 : U_{ga} \neq U_{pt}$$

The test statistic in this instance of t = 2.25 was greater than the critical value of 1.96. The null hypothesis was rejected in favor of the alternative hypothesis which states that there was a significant difference in mean rank scores by graduate assistants concerning teaching techniques and non-graduate assistants. As shown on Table 4.07, there were 38 graduate assistants. This number does not change substantially from year to year and does represent a sizeable group entering the teaching profession in some capacity every year. Teaching techniques was an important area of concern to this group of instructors.

<u>Class Preparation</u>   As shown on Table 4.08, class preparation did not receive relative rank scores that were exceptionally high. However, the graduate assistant classification does show a relative rank score of 4 out of a possible 8, which was higher than relative rank scores of 7 by both full-time and part-time faculty. In comparing whether graduate assistants' mean rank score

TABLE 4.07--Rank Frequency of Teaching Techniques by
Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	14	1	6
2	20	4	2
3	21	7	9
4	23	8	7
5	19	4	5
6	19	4	4
7	21	7	3
8	11	7	2
N =	148	42	38
Mean Rank	4.4	5.0	4.0
Relative Rank	4	6	2

was significantly different from the other two teaching
classifications, the hypothesis is symbolically written:

$$H_0 : U_{ga} = U_{ft}$$
$$H_1 : U_{ga} \neq U_{ft}$$

The test statistic of t = 2.52 was larger than the
critical value of 1.96. The null hypothesis was rejected,
indicating there was a significant difference between the
need for class preparation instruction by graduate assis-
tants and the same need on the part of non-graduate
assistants.

TABLE 4.08--Rank Frequency of Class Preparation by
Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	13	5	4
2	9	3	6
3	18	1	8
4	12	5	2
5	15	5	7
6	30	7	4
7	27	9	4
8	24	7	3
N =	148	42	38
Mean Rank	5.2	5.2	4.2
Relative Rank	7	7	4

There were no differences in comparing equality of
variances in any of the statistical comparisons shown
alone.

The other instructional areas of audio-visual
materials, course preparation, presentation, and curricu-
lum theory received relative rank scores indicating that
none of the instructional staff, regardless of their
teaching classification, felt they should be included in
any in-service training program.

Analysis of Instructional Areas by Years of College Teaching

Within the years of college teaching grouping there were only two areas that ranked high enough to justify analysis: Evaluating Students and Communication Theory.

Evaluating Students   In this faculty classification, there were six different groupings based upon the number of years of teaching. Four of these ranked evaluating students the most important area in an in-service training program, while two of these groups ranked evaluating students second in importance. As shown on Table 4.09, mean rank scores ranged from a low of 3.0 to a high of 3.7. In evaluating the equality of means, the hypothesis is symbolically written in the following manner:

$$H_0 : U_{2-5} = U_{under\ 2}$$
$$H_1 : U_{2-5} \neq U_{under\ 2}$$

The test statistic of t = 1.78 was less than the critical value of 1.96. There was no significant difference in mean rank scores between any of the groupings based on years of college teaching. Evaluating students was shown to be a very important item at all levels of seniority.

Communication Theory   As shown on Table 4.10, there was a diversity in relative rank scores. Two of the seniority groupings ranked this instructional area first, three ranked it second, and one ranked it third.

TABLE 4.09--Rank Frequency of Evaluating Students
by Years of College Teaching

Rank	<2	2-5	6-10	11-15	16-20	>20
1	13	13	11	4	4	7
2	13	11	6	5	3	3
3	9	9	10	3	5	7
4	4	5	3	2	2	4
5	11	4	8	4	1	3
6	5	2	3	1	2	0
7	7	3	4	0	3	3
8	3	1	2	1	1	0
N =	65	48	47	20	21	27
Mean Rank	3.7	3.0	3.6	3.3	3.7	3.2
Relative Rank	1	1	2	1	2	1

In comparing the equality of means, which ranged from 3.2
to 4.0, the hypothesis is symbolically written as follows:

$$H_0 : U_{6-10} = U_{under\ 2}$$

$$H_1 : U_{6-10} \neq U_{under\ 2}$$

Because the test statistic of t = 1.87 was less
than the critical value of 1.96, the null hypothesis was
accepted. There was no significant difference between
mean rank scores on communication theory by years of
college teaching.

TABLE 4.10--Rank Frequency of Communication Theory
by Years of College Teaching

Rank	<2	2-5	6-10	11-15	16-20	>20
1	13	7	13	4	6	6
2	10	8	13	2	4	3
3	5	5	2	4	2	3
4	12	11	4	2	0	5
5	3	5	5	2	4	5
6	7	5	5	2	4	1
7	11	6	5	2	1	3
8	4	1	0	2	0	1
N =	65	48	47	20	21	27
Mean Rank	4.0	3.9	3.2	4.0	3.4	3.7
Relative Rank	2	2	1	3	1	2

There were no differences in comparing equality of variances in either of the comparisons described above.

Analysis of Instructional Areas by Highest Degree Completed

Within this faculty grouping, there were four areas that received relative rank scores high enough to justify analysis: Evaluating Students, Communication Theory, Course Preparation, and Curriculum Theory.

Evaluating Students All three of the categories, bachelor's degree, master's degree, and the doctorate, ranked evaluating students with a relative rank score

of 1. As shown on Table 4.11, the mean rank scores only varied from 3.2 to 3.6. The hypothesis for comparing the

TABLE 4.11--Rank Frequency of Evaluating Students by Highest Degree Completed

Rank	Bachelor's	Master's	Doctorate
1	14	29	9
2	17	21	3
3	9	26	8
4	4	15	1
5	14	11	6
6	5	7	1
7	7	10	3
8	2	6	0
N =	72	125	31
Mean Rank	3.6	3.4	3.2
Relative Rank	1	1	1

equality of means is symbolically written:

$$H_0 : U_d = U_b$$
$$H_1 : U_d \neq U_b$$

The test statistic of t = 0.73 was less than the critical value of 1.96. All degree levels indicate this area to be extremely important.

Communication Theory   All three degree levels

ranked communication theory with a relative rank score of

2. As shown on Table 4.12, the mean rank scores only

varied from a low of 3.4 to a high of 3.8. In testing

TABLE 4.12--Rank Frequency of Communication Theory by
Highest Degree Completed

Rank	Bachelor's	Master's	Doctorate
1	17	24	8
2	10	24	6
3	7	10	4
4	13	19	2
5	4	16	4
6	9	10	5
7	11	15	2
8	1	7	0
N =	72	125	31
Mean Rank	3.7	3.8	3.4
Relative Rank	2	2	2

the equality of means, the hypothesis is written in the

following manner:

$$H_0 : U_d = U_b$$
$$H_1 : U_d \neq U_b$$

The test statistic of t = 0.81 was less than the

critical value of 1.96. There were no differences in mean

rank scores of the instructional area of communication theory based on the highest degree completed.

Course Preparation   This instructional category received a relative rank score of 3 by bachelor's and master's faculty and a relative rank of 6 by doctoral instructors. Because of the difference in relative rank scores, it was necessary to analyze whether there were differences between their mean rank scores which vary from a low of 4.1 to a high of 5.1. The hypothesis is written:

$$H_0 : U_d = U_b$$
$$H_1 : U_d \neq U_b$$

The test statistic of t = 2.20 was greater than the critical value of 1.96. The null hypothesis was rejected in favor of the alternative hypothesis. Because the hypothesis to test the extreme values was rejected, it was necessary to develop a third hypothesis written:

$$H_2 : U_d \neq U_m$$

Testing this hypothesis, the test statistic of t = 1.80 was less than the critical value of 1.96 and the hypothesis was rejected. There was a significant difference, then, between course preparation by bachelor's degree people versus doctoral degree instructors, but there was no difference between master's people and doctoral teaching staff. Table 4.13 indicates that there were 72 faculty with a bachelor's degree or nearly

TABLE 4.13--Rank Frequency of Course Preparation
by Highest Degree Completed

Rank	Bachelor's	Master's	Doctorate
1	7	9	1
2	14	20	4
3	10	15	2
4	13	19	6
5	7	16	4
6	8	29	4
7	8	13	5
8	5	4	5
N =	72	125	31
Mean Rank	4.1	4.4	5.1
Relative Rank	3	3	6

one-third of all the instructional staff. This grouping
then represents a sizeable number and, because they only
possess a bachelor's degree, course preparation would
appear to be very important for this group of instructors.

Curriculum Theory   Only one category ranked
curriculum theory high enough to warrant analysis.
Faculty with the doctorate ranked curriculum theory with
a relative rank score of 3 versus a relative rank score
of 6 by both bachelor's and master's instructors. This
could have been expected, considering doctoral faculty
may be more research and theoretical oriented and have

more interest in areas of higher education other than

teaching itself. The data in Table 4.14 show that the

mean rank scores range from 4.1 to 4.9. In testing the

TABLE 4.14--Rank Frequency of Curriculum Theory by
Highest Degree Completed

Rank	Bachelor's	Master's	Doctorate
1	10	14	2
2	5	13	7
3	7	19	4
4	6	13	7
5	9	21	2
6	15	12	3
7	10	12	4
8	10	21	2
N =	72	125	31
Mean Rank	4.9	4.6	4.1
Relative Rank	6	6	3

equality of the mean rank scores, the hypothesis is

written as follows:

$$H_0 : U_d = U_b$$

$$H_1 : U_d \neq U_b$$

The test statistic of t = 1.50 was less than the

critical value of 1.96. The null hypothesis was accepted,

indicating that although doctoral faculty gave curriculum

theory a high relative rank score, the mean rank score was, in fact, not significantly different than the mean rank score of bachelor's and master's degree instructors.

Analysis of Instructional Areas by Age Grouping

Evaluating Students   Of the five categories of age, four of the five ranked evaluating students 1 while only one category ranked it other than 1. As shown on Table 4.15, the age grouping over the age of 59 ranked

TABLE 4.15--Rank Frequency of Evaluating Students by Age Grouping

Rank	21-29	30-39	40-49	50-59	> 59
1	22	13	10	7	0
2	16	15	9	0	1
3	10	15	13	5	0
4	6	3	5	6	0
5	14	8	8	1	0
6	4	3	4	2	0
7	8	5	3	2	2
8	3	3	2	0	0
N =	83	65	54	23	3
Mean Rank	3.4	3.3	3.5	3.3	5.3
Relative Rank	1	1	1	1	7

evaluating students with a relative rank score of 7.
In testing whether or not a relative rank score of 7
was significantly different than the other four relative
rank scores of 1, the hypothesis is written in the
following manner:

$$H_0 : U_{over\ 59} = U_{30-39}$$
$$H_1 : U_{over\ 59} \neq U_{30-39}$$

The test statistic of t = 1.59 was less than the
critical value of 1.96. The mean rank score then of the
age group over 59 was not significantly different than
the mean rank score of all the other age groups.

Communication Theory   As shown on Table 4.16,
three of the five age groups ranked communication theory
with a relative rank score of 2 while the upper two age
groupings (50-59, and greater than 59) ranked communica-
tion theory a relative rank score of 4. Testing for the
equality of means, the hypothesis is shown below:

$$H_0 : U_{30-39} = U_{50-59}$$
$$H_1 : U_{30-39} \neq U_{50-59}$$

Since the test statistic of t = 1.71 was less
than the critical value of 1.96, there was no difference
in mean rank scores between any of the age groupings.

Teaching Techniques   Only one of the age group-
ings ranked teaching techniques with a relative rank score
high enough to justify analysis. The age group over 59
gave teaching techniques a relative rank score of 1. As

TABLE 4.16--Rank Frequency of Communication Theory by Age Grouping

Rank	21-29	30-39	40-49	50-59	> 59
1	16	18	13	2	0
2	16	13	5	6	0
3	7	5	6	3	0
4	17	8	5	2	2
5	4	6	11	2	1
6	8	7	9	0	0
7	11	8	3	6	0
8	4	0	2	2	0
N =	83	65	54	23	3
Mean Rank	3.8	3.4	3.8	4.3	4.3
Relative Rank	2	2	2	4	4

shown on Table 4.17, this age grouping only has an N = 3. In testing whether there was a significant difference in the mean rank score of this age grouping with any of the other mean rank scores, the hypothesis is shown below:

$$H_0 : U_{over\ 59} = U_{30-39}$$

$$H_1 : U_{over\ 59} \neq U_{30-39}$$

The test statistic of t = 1.33 was less than the critical value of 1.96. There was no significant importance associated to the mean rank score of those in the age grouping over 59 when compared with the mean rank scores of the other four age groups.

TABLE 4.17--Rank Frequency of Teaching Techniques by Age Grouping

Rank	21-29	30-39	40-49	50-59	> 59
1	9	3	6	2	1
2	9	8	5	4	0
3	13	13	8	2	1
4	14	8	11	5	0
5	10	8	6	3	1
6	11	10	3	3	0
7	10	10	8	3	0
8	7	5	7	1	0
N =	83	65	54	23	3
Mean Rank	4.4	4.6	4.5	4.3	3.0
Relative Rank	4	5	5	3	1

Course Preparation   The age grouping over 59 again was the only age group that ranked course preparation high enough to justify analysis. As shown on Table 4.18, this age group gave course preparation a relative rank score of 2. Again, because of the low N, the test statistic in comparing mean scores does not show any significant difference in mean rank scores. The t = 1.76 was less than the critical value of 1.96.

In summary, there are only two instructional areas that were ranked important based upon age grouping-- evaluating students and communication theory. The two

TABLE 4.18--Rank Frequency of Course Preparation by
Age Grouping

Rank	21-29	30-39	40-49	50-59	> 59
1	9	5	3	0	0
2	16	6	13	3	0
3	10	9	3	3	2
4	10	9	3	3	2
5	10	8	6	3	0
6	13	10	11	7	0
7	7	10	6	3	0
8	5	6	2	1	0
N =	83	65	54	23	3
Mean Rank	4.1	4.7	4.3	4.9	3.3
Relative Rank	3	6	4	6	2

areas of teaching techniques and course preparation that
received high mean rank scores by the age category of 50
and above were not significantly different than the mean
rank scores of the other age groups.

The other instructional areas of audio-visual
materials, class preparation, curriculum theory, and
presentation did not receive rank scores high enough to
justify analysis. These instructional areas were ranked
as being unimportant at all levels of age grouping.

There were no differences in comparing equality of variances in any of the above comparisons.

Analysis of Instructional Areas by Sex Grouping

There are three areas in this category that received scores high enough to discuss: Evaluating Students, Communication Theory and Teaching Techniques.

Evaluating Students   Both male and female faculty ranked evaluating students with a relative rank score of 1. Their mean rank scores ranged from 3.2 to 3.6. In testing whether there were any differences in equality of means, the hypothesis is shown below:

$$H_0 : U_{ma} = U_f$$
$$H_1 : U_{ma} \neq U_f$$

The test statistic of t = 1.30 was less than the critical value of 1.96. There was no significant difference between the mean scores of male and female faculty concerning evaluating students.

Communication Theory   Both male and female faculty gave communication theory a relative rank score of 2 and both had a mean rank score of 3.7. There were no significant differences in the mean rank scores when comparing equality of means.

Teaching Techniques   As shown on Table 4.19, male faculty ranked teaching techniques with a relative rank of 3, while female faculty gave this instructional area a relatively unimportant rank score of 6. The

TABLE 4.19--Rank Frequency of Teaching Techniques by Sex Grouping

Rank	Male	Female
1	12	9
2	16	10
3	21	16
4	23	15
5	12	16
6	15	12
7	15	16
8	6	14
N =	120	108
Mean Rank	4.2	4.8
Relative Rank	3	6

hypothesis to test the equality of means between their two mean rank scores is shown below:

$$H_0 : U_{ma} = U_f$$

$$H_1 : U_{ma} \neq U_f$$

The test statistic of t = 2.03 was greater than the critical value of 1.96. The null hypothesis was then rejected in favor of the alternative hypothesis. There was a significant difference in mean rank scores between male and female faculty concerning the instructional area of teaching techniques.

The other instructional areas of audio-visual materials, class preparation, course preparation, curriculum theory, and presentation were given relatively unimportant rank scores by both male and female faculty.

There were no differences in the three categories analyzed above when comparing equality of variances.

Analysis of Instructional Areas by Marital Status

The only areas that scored high enough to analyze were Evaluating Students and Communication Theory.

Evaluating Students   Both single and married faculty ranked evaluating students with a relative rank score of 1. Single faculty gave evaluating students a mean rank score of 3.2 while married faculty gave evaluating students a mean rank score of 3.5. In comparing the equality of means on evaluating students, the test statistic t = 0.93 was less than the critical value of 1.96. There was no difference in mean rank scores of evaluating students between single and married faculty.

Communication Theory   Both single and married faculty gave communication theory a relative rank score of 2. There was very little difference between their mean rank scores, with single faculty having a mean rank score of 3.7 while married faculty had a mean rank score of 3.8. In comparing the equality of means, the test statistic t = 0.23 was less than the critical value of 1.96. There was no difference between mean rank scores of communication theory based on marital status.

The other instructional areas of audio-visual materials, class preparation, curriculum theory, and presentation received rank scores that would indicate that faculty do not consider these areas to be very important in any in-service training program. The areas of course preparation and teaching techniques, however, received marginal rank scores and may be given consideration when developing the actual in-service program.

Analysis of Instructional Areas by Undergraduate College

Three areas will be analyzed in this section: Evaluating Students, Communication Theory, and Curriculum Theory.

Evaluating Students   As shown on Table 4.20, those faculty that received their undergraduate training at Bob Jones University ranked evaluating students with a relative rank score of 1 while non-BJU undergraduates ranked evaluating students with a relative rank score of 2. In comparing whether or not there was any difference in equality of means, the hypothesis is written as follows:

$$H_0 : U_{bju} = U_{non-bju}$$
$$H_1 : U_{bju} \neq U_{non-bju}$$

The test statistic of t = 1.86 was less than the critical value of 1.96. Although there was a difference in mean rank scores, this difference was not significant.

TABLE 4.20--Rank Frequency of Evaluating Students by Undergraduate College

Rank	BJU	non-BJU
1	43	9
2	36	5
3	32	11
4	15	5
5	26	5
6	9	4
7	15	5
8	4	4
N =	180	48
Mean Rank	3.3	3.9
Relative Rank	1	2

Communication Theory   Table 4.21 also shows a difference in relative rank scores between BJU and non-BJU undergraduates. Bob Jones University undergraduates ranked communication theory with a relative rank score of 2, while non-BJU undergraduates ranked communication theory with a relative rank score of 1. In comparing the equality of means between these two groups, the hypothesis is written as follows:

$$H_0 : U_{bju} = U_{non-bju}$$
$$H_1 : U_{bju} \neq U_{non-bju}$$

TABLE 4.21--Rank Frequency of Communication Theory by
Undergraduate College

Rank	BJU	non-BJU
1	37	12
2	29	11
3	19	2
4	27	7
5	18	6
6	19	5
7	23	5
8	8	0
N =	180	48
Mean Rank	3.8	3.4
Relative Rank	2	1

In this hypothesis, the test statistic of $t = 1.20$
was less than the critical value of 1.96, indicating that
there was no significant difference between the mean rank
scores between the two groups.

Curriculum Theory   As shown on Table 4.22, cur-
riculum theory received a relative rank score of 3 by non-
BJU undergraduates, which is substantially higher than the
relative rank score of 6 by those that received their

TABLE 4.22--Rank Frequency of Curriculum Theory by
Undergraduate Institution

Rank	BJU	non-BJU
1	21	5
2	19	6
3	20	10
4	20	6
5	27	5
6	22	8
7	24	2
8	27	6
N =	180	48
Mean Rank	4.7	4.3
Relative Rank	6	3

undergraduate training at Bob Jones University. In

testing whether this indicates a significant difference,

however, the hypothesis is shown below:

$$H_0 : U_{bju} = U_{non-bju}$$

$$H_1 : U_{bju} \neq U_{non-bju}$$

Although the mean rank scores are different, the

test statistic of t = 1.16 was less than the critical

value of 1.96, indicating that there was no significant

difference between the two groups concerning this

instructional area.

The other instructional areas of audio-visual materials, class preparation, course preparation, presentation, and teaching techniques had mean rank and relative rank scores that would indicate that these areas were not considered to be of importance in developing an in-service training program.

Analysis of Instructional Areas by Predominant Teaching Area

There were a number of areas that were analyzed in this faculty category since there are a large number of teaching areas.

Evaluating Students   There are 17 different teaching areas within the university. Of these 17 teaching areas, 6 of these areas ranked evaluating students first, 6 ranked evaluating students second, 4 ranked evaluating students third, and 1 ranked evaluating students fourth. The hypothesis to test whether there was any significant difference in mean rank scores among these 17 groups is shown below:

$$H_0 : U_{al} = U_{st}$$

$$H_1 : U_{al} \neq U_{st}$$

This analysis compared the most extreme values between ancient language (which had a relative rank score of 4) and speech theory (which had a relative rank score of 1). In the analysis, the test statistic of t = 3.47 was greater than the critical value of 1.96. The null hypothesis was then rejected in favor of the alternative

hypothesis stating that there were significant differences between the ancient language teaching area and the other divisions of the university. This significant difference in mean rank scores exists between the ancient language teaching area and the speech theory teaching area. All other areas within the university show no significant differences in mean rank scores in this instructional area of evaluating students.

<u>Communication Theory</u>   Communication theory has a little more variance in the mean rank scores and relative rank scores than did evaluating students. There were six teaching areas that ranked communication theory with a relative rank score of 1, four teaching areas assigned a relative rank score of 2, three teaching areas assigned a relative score of 3, one teaching area assigned a relative rank score of 4, two teaching areas assigned a relative rank score of 5, and one teaching area assigned a relative rank score of 7. The testable hypothesis was again set up using the most extreme values in the mean rank scores. In this analysis, speech theory was compared with the mathematical sciences to see whether or not significant differences exist:

$$H_0 : U_{st} = U_{ms}$$
$$H_1 : U_{st} \neq U_{ms}$$

The test statistic of $t = 3.59$ exceeds the critical value of 1.96. There were significant differences between speech theory and mathematical sciences and the

null hypothesis was rejected in favor of the alternative
hypothesis. In comparing whether or not there were sig-
nificant differences between speech theory and other
teaching areas beside mathematical sciences, it was found
that there were significant differences with the areas of
applied sciences, business administration, secondary edu-
cation, English, ancient languages, music, office admin-
istration, social science, and natural science. There
were no significant differences between any of the other
predominant teaching areas. The mean rank scores of all
of the other 16 areas when compared with each other were
not significantly different. The only difference was in
those previously indicated with the speech theory area.

The other areas of instruction, audio-visual
materials, class preparation, course preparation, curric-
ulum theory, presentation, and teaching techniques did
not have many rank scores that would justify discussion.
There were, however, some exceptions. The teaching area
of religion did indicate a relative rank score of 1 for
audio-visual materials. This, however, was not statis-
tically significant with a test statistic of $t = 1.91$,
which was less than the critical value of 1.96. Elemen-
tary education ranked curriculum theory with a relative
rank score of 1 and this rank score did have significance
at the .05 level when compared with modern languages,
music, and mathematical sciences.

<u>Section 1 Summary</u>   This section analyzed the
instructional areas by the various faculty categories. It
is important to remember that each faculty member's rating
of the instructional areas reflects his self-perception of
the items that should be included in the faculty in-service
program based upon his particular deficiencies.

The two major areas of importance to all faculty,
regardless of their academic division, teaching status,
seniority, degree level, age, sex, marital status, under-
graduate university attended, or predominant teaching
area, were evaluating students and communication theory.

Evaluation of students would include the develop-
ment of valid and reliable examinations, use of objective
and essay tests, methods of evaluation other than exami-
nations, term projects, and research papers.

Communication theory would include an under-
standing of transmittal of thoughts and ideas from teacher
to student, overcoming communication obstacles, developing
good communication skills, vertical and horizontal com-
munication networks, and an understanding of the purpose
and usefulness of the grapevine.

Other instructional areas that were considered to
be important, but not necessarily by all faculty, included
instruction in teaching techniques and style and class

preparation by graduate assistants, course preparation
for those with only a bachelor's degree, and curriculum
theory for faculty in elementary education.

Section 2 - Analysis of Non-Instructional Areas

Analysis of Non-Instructional Areas by Academic Division

Within the academic division faculty grouping, there were three areas that received relative rank scores high enough to justify analysis: Advising and Counseling Students, Student Characteristics, and Tests and Measurements.

Advising and Counseling Students   Four of the five academic divisions in the university ranked this non-instructional area as being the most necessary element in any faculty in-service training program. One area, the School of Religion, gave advising and counseling students a relative rank score of 2. As shown on Table 4.23, the religion faculty had a mean rank score of 3.1, which is higher than all of the other mean rank scores. The t-test of equality of means to determine if there were any significant difference in mean rank scores between religion faculty and any of the other divisions of the university is symbolically written in the following manner:

$$H_0 : U_r = U_{fa}$$
$$H_1 : U_r \neq U_{fa}$$

The hypothesis compares only fine arts and religion faculty. The null hypothesis was rejected since the test statistic t = 2.37 was greater than the critical value of 1.96. The alternate hypothesis was then accepted. There was a significant difference between mean

TABLE 4.23--Rank Frequency of Advising and Counseling
Students by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	34	4	5	29	7
2	26	3	3	24	4
3	10	1	4	12	7
4	10	1	2	8	5
5	7	2	1	4	3
6	3	0	0	1	2
7	1	0	0	2	1
8	2	0	0	0	0
N =	93	11	15	80	29
Mean Rank	2.4	2.5	2.4	2.3	3.1
Relative Rank	1	1	1	1	2

rank scores of religion faculty and fine arts faculty.
Because H_1 was accepted, it was then necessary to compare
the mean rank score of religion faculty with the mean rank
score of the second most extreme value. The hypothesis is
symbolically written in the following manner:

$$H_2 : U_r \neq U_{a \& s}$$

This hypothesis was rejected because the test
statistic t = 1.66 was less than the critical value of
1.96. In summary, there were no significant differences
between mean rank scores in the category of advising

students between any of the academic divisions of arts
and science, business, education, and fine arts. There
was, however, a significant difference between religion
and fine arts. Although there was a significant differ-
ence between these two academic divisions, the faculty in
the School of Religion did rank advising and counseling
students with a relative rank score of 2, which is
extremely high.

Advising and counseling students was thus shown
to be an important area of concern, regardless of the
faculty member's academic division.

Student Characteristics   As shown on Table
4.24, arts and science, business, and fine arts faculty
each indicated a relative rank score of 2 for the area of
student characteristics, while education and religion
faculty indicated a relative rank score of 3. In deter-
mining whether or not there were any significant differ-
ences between the mean rank scores in any of these divi-
sions, the most extreme values were used in the analysis
with the hypothesis symbolically written in the following
manner:

$$H_0 : U_{a\ \&\ s} = U_{fa}$$
$$H_1 : U_{a\ \&\ s} \neq U_{fa}$$

The test statistic of t = 2.97 was larger than
the critical value of 1.96. The null hypothesis was then
rejected in favor of the alternate hypothesis. Because
of this, it was necessary to compare the second most

TABLE 4.24--Rank Frequency of Student Characteristics
by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	12	2	1	21	4
2	28	3	4	29	7
3	19	4	4	11	6
4	13	1	3	12	5
5	12	0	0	4	3
6	4	1	1	2	2
7	4	0	1	1	1
8	1	0	1	0	1
N =	93	11	15	80	29
Mean Rank	3.2	2.7	3.6	2.5	3.4
Relative Rank	2	2	3	2	3

extreme values and the hypothesis and is symbolically
shown below:

$$H_2 : U_e \neq U_{fa}$$

The test statistic in this hypothesis of t = 2.62
was larger than the critical value of 1.96. Because of
this, it was necessary to compare a third alternative
hypothesis symbolically shown below:

$$H_3 : U_r \neq U_{fa}$$

The test statistic of t = 2.68 was larger than the critical value, which then makes it necessary to test a fourth alternate hypothesis. The hypothesis which tests the next most extreme value is symbolically shown below:

$$H_4 : U_e \neq U_{bus}$$

This hypothesis had a test statistic of t = 1.21, which was less than the critical value of 1.96.

In summary, it was shown that there were significant statistical differences between fine arts faculty and the faculty in the Schools of Arts and Science, Education, and Religion; but there were no other statistical significances outside those just described.

Tests and Measurements   As shown on Table 4.25, three of the academic divisions gave this non-instructional category a relative rank score of 3, one division a relative rank score of 2, and one division a relative rank score of 1. Although all relative rank scores would fall within the classification of appearing to be important, it was necessary to compare their mean rank scores to see whether or not there were any significant differences between the academic divisions. The comparison for the equality of means is symbolically written in the following manner:

$$H_0 : U_{fa} = U_r$$
$$H_1 : U_{fa} \neq U_r$$

TABLE 4.25--Rank Frequency of Tests and Measurements by Academic Division

Rank	Arts & Science	Business	Education	Fine Arts	Religion
1	21	2	5	17	11
2	6	1	2	7	8
3	16	2	3	11	4
4	19	3	2	10	0
5	10	2	2	7	1
6	6	0	0	5	2
7	8	0	1	13	1
8	7	1	0	10	2
N =	93	11	15	80	29
Mean Rank	3.8	3.6	2.9	4.3	2.7
Relative Rank	3	3	2	3	1

The most extreme values were compared in this hypothesis with the test statistic $t = 2.89$ being generated. Since this value was greater than the critical value of 1.96, the null hypothesis was rejected in favor of the alternate hypothesis. A second alternate hypothesis was necessary and is symbolically written below:

$$H_2 : U_{a \& s} \not= U_r$$

The test statistic in this hypothesis of $t = 2.33$ was greater than the critical value of 1.96. It was then

necessary to develop a third alternate hypothesis, which
is symbolically shown below:

$$H_3 : U_{fa} \neq U_e$$

The test statistic in this hypothesis of t = 2.03
was also greater than the critical value of 1.96. It
becomes necessary then to develop a fourth alternate
hypothesis, which is symbolically written in the following
manner:

$$H_4 : U_{a \& s} \neq U_e$$

The test statistic in this instance of t = 1.58
was less than the critical value of 1.96. The hypothesis
was accepted showing that there were no further signifi-
cant differences.

In summary, although there were significant dif-
ferences between three of the areas as shown above, the
majority of faculty indicated that the non-instructional
area of tests and measurements was important and should
be included in any faculty in-service training program.

Analysis of Non-Instructional Areas by Teaching Status

Within the teaching status faculty grouping,
there were three areas that appear to be necessary for
further evaluation: Advising and Counseling Students,
Student Characteristics, and Tests and Measurements.

Advising and Counseling Students   All three
faculty teaching classifications, full-time, part-time,
and graduate assistants ranked this non-instructional

area with a relative rank score of 1, indicating this to
be the most important area for them that should be in-
cluded in any faculty in-service training program. As
shown on Table 4.26, the mean rank scores ranged from

TABLE 4.26--=Rank Frequency of Advising and Counseling
Students by Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	52	19	8
2	40	7	13
3	16	9	9
4	21	3	2
5	14	2	1
6	1	2	3
7	3	0	1
8	1	0	1
N =	148	42	38
Mean Rank	2.5	2.2	2.8
Relative Rank	1	1	1

2.2 to 2.8. The t-test of equality of means is symboli-
cally written in the following manner:

$$H_0 : U_{ga} = U_{pt}$$
$$H_1 : U_{ga} \neq U_{pt}$$

The test statistic of t = 1.58 was less than the critical value of 1.96. All areas within teaching status thus indicate advising and counseling students to be an extremely important area of concern.

Student Characteristics   All three areas within this faculty grouping ranked student characteristics with a relative rank score of 2. As shown on Table 4.27, the

TABLE 4.27--Rank Frequency of Student Characteristics by Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	25	6	9
2	44	17	10
3	33	6	5
4	22	5	7
5	12	4	3
6	8	2	0
7	3	1	3
8	1	1	1
N =	148	42	38
Mean Rank	3.0	3.0	3.1
Relative Rank	2	2	2

mean rank scores ranged only from 3.0 to 3.1. In testing for equality of means, the hypothesis is symbolically written in the following manner:

$$H_0 : U_{ga} = U_{ft}$$
$$H_1 : U_{ga} \neq U_{ft}$$

The null hypothesis was accepted since the test statistic of t = 0.33 was less than the critical value of 1.96. There were no significant differences between full-time, part-time, and graduate assistant faculty in the category of student characteristics. All three faculty teaching classifications consider student characteristics to be necessary in any faculty in-service training program.

Tests and Measurements   As shown on Table 4.28, all three of the teaching categories ranked this non-instructional area with a relative rank score of 3. The mean rank scores ranged from a score of 3.2 by graduate assistants to a score of 4.0 by full-time faculty. The t-test of equality of means is symbolically written in the following manner:

$$H_0 : U_{ga} = U_{ft}$$
$$H_1 : U_{ga} \neq U_{ft}$$

The test statistic of t = 1.76 was less than the critical value of 1.96; thus, the null hypothesis was accepted, indicating there were no significant differences between any of the teaching classifications in the non-instructional areas of tests and measurements.

TABLE 4.28--Rank Frequency of Tests and Measurements by Teaching Status

Rank	Full Time	Part Time	Graduate Assistant
1	33	10	13
2	16	3	5
3	22	10	4
4	18	8	8
5	16	4	2
6	12	1	0
7	16	4	3
8	15	2	3
N =	148	42	38
Mean Rank	4.0	3.5	3.2
Relative Rank	3	3	3

Analysis of Non-Instructional Areas by Years of College Teaching

Within this faculty grouping, there were the same previous three areas that received relative rank scores high enough to justify further analysis: Advising and Counseling Students, Student Characteristics, and Tests and Measurements.

Advising and Counseling Students   As shown on Table 4.29, all six seniority categories ranked advising and counseling students with a relative rank score of 1.

TABLE 4.29--Rank Frequency of Advising and Counseling Students by Years of College Teaching

Rank	<2	2-5	6-10	11-15	16-20	>20
1	22	20	16	4	9	8
2	13	12	12	8	5	10
3	11	7	8	3	2	3
4	8	5	6	3	1	3
5	4	4	3	1	2	3
6	3	0	1	1	1	0
7	2	0	1	0	1	0
8	2	0	0	0	0	0
N =	65	48	47	20	21	27
Mean Rank	2.8	2.2	2.5	2.6	2.5	2.4
Relative Rank	1	1	1	1	1	1

The mean rank scores ranged from 2.2 to 2.8. In testing for the equality of means, the hypothesis is symbolically written in the following manner:

$$H_0 : U_{<2} = U_{2-5}$$
$$H_1 : U_{<2} \neq U_{2-5}$$

The null hypothesis was accepted since the test statistic of t = 1.86 was less than the critical value of 1.96. There were no significant differences between any of the categories of years of college teaching in the area of advising and counseling students. All levels of

seniority consider this area to be the most important non-instructional item that should be included in any faculty in-service training program.

Student Characteristics   As shown on Table 4.30,

TABLE 4.30--Rank Frequency of Student Characteristics by Years of College Teaching

Rank	<2	2-5	6-10	11-15	16-20	>20
1	11	8	10	3	1	7
2	19	15	19	4	8	6
3	12	9	5	7	4	7
4	9	7	6	3	4	5
5	5	4	4	2	2	2
6	3	4	0	1	2	0
7	5	1	1	0	0	0
8	1	0	2	0	0	0
N =	65	48	47	20	21	27
Mean Rank	3.2	3.0	2.8	3.0	3.2	3.6
Relative Rank	2	2	2	2	2	2

all six levels of seniority ranked student characteristics with a relative rank score of 2. The mean rank scores

ranged from 3.2 to 3.6. The t-test of equality of means
is symbolically written in the following manner:

$$H_0 : U_{<2} = U_{>20}$$
$$H_1 : U_{<2} \neq U_{>20}$$

The null hypothesis was accepted since the test
statistic of t = 1.50 was less than the critical value of
1.96. There were no significant differences between mean
rank scores at any level of seniority. This non-
instructional area is thus considered to be an important
area that should be covered in the faculty in-service
training program.

   Tests and Measurements   As shown in Table 4.31,
all levels of seniority ranked this non-instructional
area with a relative rank score of 3. The mean rank
scores ranged from 3.6 to 4.2. The t-test of equality of
means is symbolically written in the following manner:

$$H_0 : U_{2-5} = U_{16-20}$$
$$H_1 : U_{2-5} \neq U_{16-20}$$

The null hypothesis was accepted since the test
statistic of t = 1.03 is less than the critical value of
1.96. Tests and measurements was an important area at all
levels of seniority.

Analysis of Non-Instructional Areas by Highest Degree Achieved

   Within this faculty grouping, there were again
the same three areas that received relative rank scores

high enough to analyze further: Advising and Counseling
Students, Student Characteristics, and Tests and Measure-
ments.

TABLE 4.31--Rank Frequency of Tests and Measurements by
Years of College Teaching

Rank	< 2	2-5	6-10	11-15	16-20	> 20
1	18	10	12	5	3	8
2	9	5	4	2	3	1
3	8	12	9	0	3	4
4	9	5	6	6	4	4
5	5	6	2	3	2	4
6	3	5	3	2	0	0
7	5	3	8	0	4	3
8	8	2	3	2	2	3
N =	64	48	47	20	21	27
Mean Rank	3.7	3.6	3.8	3.8	4.2	3.8
Relative Rank	3	3	3	3	3	3

Advising and Counseling Students   As shown on
Table 4.32, bachelor's and master's degree faculty ranked
this non-instructional area with a relative rank score of
1, while those faculty with a doctorate ranked this area
with a relative rank score of 2. The t-test of equality
of means to determine if there were any significant

TABLE 4.32--Rank Frequency of Advising and Counseling
Students by Highest Degree Achieved

Rank	Bachelor's	Master's	Doctorate
1	30	45	4
2	18	30	12
3	11	17	6
4	6	16	4
5	2	11	4
6	4	2	0
7	1	2	1
8	0	2	0
N =	72	125	31
Mean Rank	2.3	2.5	2.9
Relative Rank	1	1	2

differences between the mean rank scores is symbolically

written in the following manner:

$$H_0 : U_b = U_d$$

$$H_1 : U_b \neq U_d$$

The null hypothesis was accepted since the test

statistic of t = 1.82 was less than the critical value of

1.96. Advising and counseling students is shown to be an

important area, regardless of the degree level of the

faculty member.

Student Characteristics   As shown on Table 4.33,

bachelor's and master's faculty ranked this

non-instructional area with a relative rank of 2, while those with the doctorate ranked this as the most important non-instructional area in the faculty in-service training program. The mean rank scores ranged from 2.8 to 3.1.

TABLE 4.33--Rank Frequency of Student Characteristics by Highest Degree Completed

Rank	Bachelor's	Master's	Doctorate
1	14	19	7
2	27	36	8
3	13	23	8
4	6	23	5
5	6	12	1
6	2	8	1
7	3	3	1
8	1	1	1
N =	72	125	31
Mean Rank	2.8	3.1	2.8
Relative Rank	2	2	1

The t-test of equality of means is symbolically written in the following manner:

$$H_0 : U_m = U_b$$
$$H_1 : U_m \neq U_b$$

The null hypothesis was accepted since the test statistic of t = 1.25 was less than the critical value of

1.96. Student characteristics was shown to be an area that should be included in the faculty in-service training program.

Tests and Measurements As shown on Table 4.34,

TABLE 4.34--Rank Frequency of Tests and Measurements by Highest Degree Completed

Rank	Bachelor's	Master's	Doctorate
1	14	33	9
2	7	16	1
3	13	16	7
4	14	17	3
5	9	10	3
6	5	7	1
7	6	14	3
8	4	12	4
N =	72	125	31
Mean Rank	3.8	3.7	3.8
Relative Rank	3	3	3

all three degree levels ranked tests and measurements with a relative rank score of 3. The mean rank scores only varied from 3.7 to 3.8. The t-test of equality of means is symbolically written in the following manner:

$$H_0 : U_m = U_d$$

$$H_1 : U_m \neq U_d$$

The null hypothesis was accepted since the test statistic of t = 0.14 was less than the critical value of 1.96. Tests and measurements was shown to be an area of concern that should be included in the faculty in-service training program.

Analysis of Non-Instructional Areas by Age Grouping

Within this faculty grouping, there were again the same three areas that received relative rank scores high enough to analyze further: Advising and Counseling Students, Student Characteristics, and Tests and Measurements.

Advising and Counseling Students

As shown on Table 4.35, four of the five age groupings ranked advising and counseling students with the highest rank score possible. One age grouping, those over 59, ranked advising and counseling students with a relative score of 2. In testing for the equality of means between those over 59 and all other age groups, the hypothesis is symbolically written as shown below:

$$H_0 : U_{>59} = U_{40-49}$$
$$H_1 : U_{>59} \neq U_{40-49}$$

The null hypothesis was accepted since the test statistic of t = 1.36 was less than the critical value of 1.96. There were no significant differences between any of the age groupings in the category of advising and counseling students.

TABLE 4.35--Rank Frequency of Advising and Counseling Students by Age Grouping

Rank	21-29	30-39	40-49	50-59	> 59
1	27	25	21	6	0
2	22	16	12	9	1
3	15	9	6	4	0
4	9	5	9	2	1
5	3	8	4	1	1
6	3	1	2	0	0
7	2	1	0	1	0
8	2	0	0	0	0
N =	83	65	54	23	3
Mean Rank	2.6	2.4	2.4	2.4	3.7
Relative Rank	1	1	1	1	2

Student Characteristics   As shown on Table 4.36, all age groupings ranked student characteristics with a relative rank score of 2, with the exception of the age group over 59, which gave this category a relative rank score of 4. In testing for the equality of means, the hypothesis is symbolically shown below:

$$H_0 : U_{>59} = U_{50-59}$$

$$H_1 : U_{>59} \neq U_{50-59}$$

Since the test statistic of t = 1.98 was greater than the critical value of 1.96, the null hypothesis was rejected in favor of the alternate hypothesis. Because

TABLE 4.36--Rank Frequency of Student Characteristics by Age Grouping

Rank	21-29	30-39	40-49	50-59	>59
1	15	12	5	8	0
2	26	23	18	4	0
3	15	13	10	6	0
4	12	8	10	2	2
5	8	3	5	2	1
6	2	2	5	1	0
7	4	2	1	0	0
8	1	2	0	0	0
N =	83	65	54	23	3
Mean Rank	3.0	2.9	3.2	2.5	4.3
Relative Rank	2	2	2	2	4

the alternate hypothesis was accepted, a second alternate hypothesis must then be tested to determine if there were any significant differences beyond the two age groups in the first alternate hypothesis. A second alternate hypothesis is symbolically shown below:

$$H_2 : U_{50-59} \neq U_{30-39}$$

Since the test statistic of t = 1.77 was less than the critical value of 1.96, there was no significant difference between the groups shown in the second alternate hypothesis. In summary, there were no differences between

any of the five age groupings concerning student charac-
teristics, with the exception of the age group over 59
with the age group of 50-59. The faculty between ages 21
and 59 consider student characteristics to be vital in the
in-service training program, while faculty over 59 do not
consider this area to be that important.

Tests and Measurements   Table 4.37 shows that

TABLE 4.37--Rank Frequency of Tests and Measurements
by Age Grouping

Rank	21-29	30-39	40-49	50-59	>59
1	24	14	12	5	1
2	10	7	4	3	0
3	10	12	11	2	1
4	11	8	10	5	0
5	6	8	5	3	0
6	8	3	1	0	1
7	7	7	7	2	0
8	7	6	4	4	3
N =	83	65	54	24	6
Mean Rank	3.6	3.9	3.8	3.9	3.3
Relative Rank	3	3	3	4	1

faculty over 59 ranked tests and measurements to be the
most important item in the faculty in-service training
program, while three of the categories ranked this

non-instructional area with a relative rank score of 3,
and one age grouping ranked this area with a relative
rank score of 4. In testing the equality of means, the
hypothesis is symbolically shown below:

$$H_0 : U_{30-39} = U_{over \ 59}$$
$$H_1 : U_{30-39} \neq U_{over \ 59}$$

Since the test statistic of $t = 0.38$ was less than
the critical value of 1.96, the null hypothesis was ac-
cepted, thus showing that there were no significant dif-
ferences in mean rank scores between any of the five age
groupings concerning tests and measurements.

Analysis of Non-Instructional Areas by Sex Grouping

As has been the case in the past few areas of
analysis, the same three non-instructional areas received
relative rank scores high enough to justify analysis:
Advising and Counseling Students, Student Characteristics,
and Tests and Measurements.

Advising and Counseling Students   As shown on
Table 4.38, both male and female faculty ranked advising
and counseling students as the most important item in the
faculty in-service training program. The mean rank scores
differ from 2.2 to 2.8. In testing whether there were
significant differences between the mean scores, the
hypothesis is symbolically shown below:

$$H_0 : U_{ma} = U_f$$
$$H_1 : U_{ma} \neq U_f$$

TABLE 4.38--Rank Frequency of Advising and Counseling
Students by Sex Grouping

Rank	Male	Female
1	29	50
2	36	24
3	20	14
4	15	11
5	13	4
6	3	3
7	3	1
8	1	1
N =	120	108
Mean Rank	2.8	2.2
Relative Rank	1	1

Since the test statistic of t = 2.77 was greater
than the critical value of 1.96, there was a significant
difference between mean rank scores based upon sex. How-
ever, since both male and female faculty ranked advising
and counseling students with the highest relative rank
score possible, the conclusion was that female faculty
indicated a greater rank frequency of rank scores of 1, 2,
or 3 than did the male faculty. Although there were dif-
ferences in mean rank scores, both male and female faculty

consider advising and counseling students to be the most

important area in the faculty in-service training program.

Student Characteristics   As shown on Table

4.39, both male and female faculty ranked student charac-

teristics to be the second most important item in the

TABLE 4.39--Rank Frequency of Student Characteristics
by Sex Grouping

Rank	Male	Female
1	22	18
2	30	41
3	23	21
4	19	15
5	9	10
6	8	2
7	6	1
8	3	0
N =	120	108
Mean Rank	3.2	2.7
Relative Rank	2	2

faculty in-service training program. Their mean rank

scores ranged from 2.7 to 3.2. In testing for dif-

ferences in equality of means, it is found that there was

a significant difference between male and female faculty

with the test statistic of t = 2.36 being greater than the critical value of 1.96. However, since both male and female faculty ranked student characteristics with a relative rank score of 2, the difference in mean rank scores can only be attributed to a greater frequency of female rank scores of 1, 2, and 3.

<u>Tests and Measurements</u>   Both male and female faculty ranked tests and measurements with a relative rank score of 3. There was no significant difference between the mean rank scores with the test statistic of t = 1.95 being less than the critical value of 1.96.

<u>Analysis of Non-Instructional Areas by Marital Status</u>

Both single and married faculty ranked these three areas with relative rank scores of 1, 2, and 3, respectively. There were no significant differences between the mean rank scores on any of these three non-instructional areas. The test statistic for advising and counseling students was t = 0.29; for student characteristics, the test statistic was t = 0.23; for tests and measurements, the test statistic was t = 0.10. All test statistics are below the critical value of 1.96.

<u>Analysis of Non-Instructional Areas by Undergraduate University Attended</u>

The same three areas that have been analyzed throughout the non-instructional areas will again be analyzed in this section: Advising and Counseling Students, Student Characteristics, and Tests and Measurements.

<u>Advising and Counseling Students</u>   Both faculty categories ranked advising and counseling students as the most important non-instructional area to be included in the faculty in-service training program. In testing for equality of means between these two groups, the test statistic of t = 1.01 was less than the critical value of 1.96. There were no significant differences between undergraduate college attended and the importance of advising and counseling students.

<u>Student Characteristics</u>   Both categories of faculty ranked this non-instructional area with a relative rank score of 2. Their mean rank scores differed from 2.8 to 3.5, and the test statistic of t = 2.50 indicated that there was a significant difference in mean rank scores between these two groups. This was attributed to the higher rank frequency of rank scores of 1, 2, and 3 by those who received their undergraduate training at Bob Jones University. Both groups consider this non-instructional area to be an important area to be covered in the faculty in-service training program.

<u>Tests and Measurements</u>   As shown on Table 4.40, both categories of faculty ranked this non-instructional area with a relative rank score of 3. The test statistic in comparing the quality of means was t = 1.50, which was less than the critical value of 1.96. There were

TABLE 4.40--Rank Frequency of Tests and Measurements
by Undergraduate College

Rank	BJU	non-BJU
1	46	10
2	18	6
3	30	6
4	27	7
5	19	3
6	12	1
7	16	7
8	12	8
N =	180	48
Mean Rank	3.6	4.2
Relative Rank	3	3

no significant differences in mean rank scores between

these two groups.

Analysis of Non-Instructional Areas by Predominant Area

Advising and Counseling Students, Student Char-

acteristics, and Tests and Measurements will again be the

three areas that will be analyzed in this section.

Advising and Counseling Students   Thirteen of

the teaching areas ranked advising and counseling stu-

dents with a relative rank score of 1, three ranked

advising and counseling students with a relative rank

score of 2, and one area ranked advising and counseling

students with a relative rank score of 3. The seventeen predominant teaching areas generate 136 individual comparisons. Only one of the 136 comparisons generated a t-score above the critical value of 1.96. The comparison between ancient language faculty and the music faculty generates a test statistic of t = 2.03. All of the other 135 group comparisons showed no significant differences between mean rank scores.

Student Characteristics Ten of the teaching areas ranked student characteristics with a relative rank score of 2, six ranked student characteristics with a relative rank score of 3, and one area ranked this item with a relative rank score of 1. Of the 136 group comparisons, only nine groups had test statistics greater than the critical value of 1.96. The areas that produced significant differences in mean rank scores were between music, natural sciences, and speech theory.

Tests and Measurements Three teaching areas ranked tests and measurements with a relative score of 1, three with a relative rank score of 2, six with a relative rank score of 3, and five with relative rank scores greater than 3. Of the 136 group comparisons, there were 14 groups that had mean rank scores which generated statistical significance above the critical value of 1.96. All 14 areas were in the two areas of music and religion when compared with other teaching areas of the university. Music did have a relative rank score of 6, while religion

faculty indicated a relative rank score of 1. The music significance could be expected since evaluation of music students is not based upon conventional testing techniques but is more on actual performance.

Section 2 Summary   Section 2 of this chapter analyzed the non-instructional areas by the various faculty categories. It is again important to remember that each faculty member's rating of the non-instructional areas reflected his or her self-perceptions of the items that should be included in the faculty in-service training program.

The three major areas of importance to faculty, regardless of academic division, teaching status, seniority, degree level, age, sex, marital status, undergraduate university attended, or predominant teaching area were advising and counseling students, characteristics of the college student, and tests and measurements.

Advising and counseling students would include an overview of basic psychology with emphasis on determining root problem areas, understanding the existing sources of guidance within the university, and identification of problems which may be encountered.

Characteristics of the college student would include the nature of the college student, goals, aspirations, family background, mental abilities and a comparative analysis of present and prior college students.

Tests and measurements would include a basic understanding of research data, using descriptive and inferential statistics, histograms, correlation-scatter diagrams, standard error, hypothesis testing, regression, and analysis of variance and co-variance.

Specific recommendations on the mechanics and organization of these three areas in the faculty in-service program will be discussed in <u>Chapter Five</u>.

Section 3 - Teaching Objectives

This section of Chapter Four was designed to
determine if there were any differences in teaching
objectives between any of the various faculty categories
within the university. The teaching objectives included
three cognitive objectives in the areas of problem
solving, student mastery of subject, and critical
thinking and two affective objectives which included a
student's value system and the providing of a learning
experience. This section was also designed to determine
whether any of the possible differences in teaching ob-
jectives would influence the manner in which a faculty
in-service program would be developed.

As shown on Appendix B, virtually all faculty
categories considered the cognitive teaching objectives
to be the first, second, or third in relative importance
in their teaching. The two affective teaching objectives
were consistently ranked last or next to last throughout
the various faculty categories. The noted exceptions
were in seniority where those with 16 or more years of
teaching considered the reinforcement of a student's
value system to rank as high as second in importance and
the age grouping over 59 also ranked the affective
teaching objective of the reinforcement of a student's
value system with a relative rank of two out of five.
In only one instance did either of the two affective
teaching objectives receive a relative rank score of 1.

This was by the art faculty. These same art faculty, however, ranked two cognitive areas second and third in importance with the final affective teaching objective receiving a relative rank score of 4. In testing for equality of means between any of the faculty categories in the cognitive teaching objectives, there were virtually no areas within the university where faculty mean rank scores showed a significant statistical difference between any of the other categories within the same grouping. The age grouping over 59 did have statistical significance with the problem solving approach teaching objective; but, with only an N of 3, there would not appear to be enough faculty to justify the development of a separate program for only three instructors.

Of the 17 predominant teaching areas, 16 of these ranked one of the three cognitive areas as being the most important teaching objective.

In summary, there would not appear to be any basis for developing a faculty in-service training program along cognitive or affective lines since virtually all faculty throughout the university consider the cognitive teaching objectives to be the most important.

Summary

This chapter analyzed the data that were gathered to develop a faculty in-service training program based on self-perceived weaknesses in both instructional and

non-instructional areas. The data were analyzed along three basic divisions:

Section 1   Analysis of instructional areas by the various faculty classifications

Section 2   Analysis of non-instructional areas by the various faculty classifications

Section 3   Analysis of teaching objectives by the various faculty classifications

Based on an analysis of the instructional areas, there were two major areas of importance to faculty, regardless of their academic division, teaching status, seniority, degree level, age, sex, marital status, undergraduate university attended, or predominant teaching area, which were the evaluation of students and communication theory. Evaluation of students included how to develop valid and reliable examinations, use of objective and essay tests, methods of evaluation other than examinations, term projects, and research papers. Communication theory would include developing an understanding of transmittal of thoughts and ideas from teacher to student, overcoming communication obstacles and developing good communication skills, vertical and horizontal communications, and an understanding of the usefulness of the grapevine. Other areas that were considered to be important were instruction in teaching techniques and style and class preparation by graduate assistants, course preparation for those with only a bachelor's

degree, teaching techniques and style for male faculty, and curriculum theory for those in the elementary education area.

An analysis of the non-instructional areas showed that advising and counseling students, characteristics of the college student, and tests and measurements to be the three most important areas to be included in the faculty in-service training program, regardless of the faculty grouping. Advising and counseling students would include an overview of basic psychology with emphasis on determining root problem areas, understanding of existing sources of guidance within the university, and the identification of problems which may be encountered. Characteristics of the college student would include the nature of the college student, goals, aspirations, family background, mental abilities, and a comparative analysis of present and prior college students. Tests and measurements would include a basic understanding of research data using descriptive and inferential statistics, histograms, correlation-scatter diagrams, standard error, hypothesis testing, regression, and analysis of variance and covariance.

An analysis of faculty teaching objectives showed that virtually all faculty, regardless of faculty grouping, indicate the cognitive areas of teaching to be the most important teaching objectives. These would include the development in the student of an awareness to

identify, analyze, and formulate solutions to problems, providing for student mastery of subject matter through the acquisition and assimilation of knowledge, and instilling in the student a sense of accomplishment and satisfaction in giving the student something he or she can identify as being necessary for his or her life's work. The affective teaching objectives were ranked either last or next to last in order of importance. Thus, there was no basis for differentiating between faculty in-service training based on either cognitive or affective teaching objectives.

An analysis of when the in-service workshops should be scheduled showed that the majority of faculty would prefer to have in-service training take place prior to the start of a school year. Additionally, no faculty member had ever had any graduate courses designed specifically to be a preparation for college teaching.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purposes of this study were:

1. To determine the areas of instructional and non-instructional weaknesses as indicated by each faculty's self-perception of his teaching needs.

2. To determine the teaching objectives of each faculty member.

3. To develop a faculty in-service training program based on the faculty member's indication of the areas of instructional and non-instructional weaknesses that will overcome these deficiencies.

In-service training becomes a key element in the improvement of classroom teaching since the undergraduate and graduate programs essentially do not prepare an individual for college teaching. The assumptions of this study were:

1. That the process of education is the essential purpose of the American College System.

2. That the classroom instructor should possess a strong understanding of the discipline in which he is teaching.

3. That the classroom instructor understand the process of the art of teaching--communication, evaluating, motivating, assisting, and any other area that is vital in this process.

4. That every college and university has as its goal to provide outstanding classroom instruction, incorporating competency in both the academic discipline and the dissemination of knowledge to students.

An analysis of the literature focused attention on the importance that teaching is now receiving in the many articles and books that are being published. The literature also called attention to the recent studies which show that faculty development programs are essential in the improvement of the performance of college teaching. There are also movements underway to develop an understanding of teaching at the graduate level while the student is still in the doctoral program, thus emphasizing the importance of developing an understanding of the teaching process before the student finishes a doctoral program.

The population from which the sample was drawn consisted of faculty members employed at Bob Jones University, Greenville, South Carolina, during the

1975-76 school year. This population was chosen since the faculty in-service program will be developed at Bob Jones University using the input from these faculty members. The basic instrument used to collect faculty self-perceptions of teaching needs was a questionnaire. There were 253 questionnaires distributed and 228 returned for a response rate of 90.1%. The questionnaire was designed to have faculty make a self-analysis of the instructional and non-instructional items on the questionnaire and rank order the eight instructional items, the eight non-instructional items, and the five teaching objectives.

Findings

Based on the analysis of the instructional areas, there were two major areas of importance to faculty, regardless of their academic division, teaching status, seniority, degree level, age, sex, marital status, undergraduate university attended, or predominant teaching area. These two areas were evaluation of students and communication theory. Evaluation of students would include the development of valid and reliable examinations, use of objective and essay tests, methods of evaluation other than examinations, term projects, and research papers. Communication theory would include developing an understanding of transmittal of thoughts and ideas from teacher to student, overcoming communication

obstacles, developing good communication skills, vertical and horizontal communication networks, and an understanding of the purpose and usefulness of the grapevine. Other instructional areas that were considered to be important, but not necessarily by all faculty categories, included instruction in teaching techniques and style and class preparation by graduate assistants, course preparation for those with only a bachelor's degree, and curriculum theory for faculty in elementary education.

An analysis of the non-instructional areas indicated that there were three major areas that were important to all faculty, regardless of their academic division, teaching status, seniority, degree level, age, sex, marital status, undergraduate university attended, or predominant teaching area. These three areas were advising and counseling students, characteristics of the college students, and tests and measurements. Advising and counseling students would include an overview of basic psychology, with emphasis on determining root problem areas, understanding the existing sources of guidance within the university, and the identification of problems which may be encountered. Characteristics of the college student would include the nature of the college student, goals, aspirations, family background, mental abilities, and a comparative analysis of present and prior college students. Tests and measurements

would include a basic understanding of research data,
using descriptive and inferential statistics, histograms,
correlation-scatter diagrams, standard error, hypothesis
testing, regression, and an analysis of variance and
covariance. There were no non-instructional areas out-
side these three areas that any smaller faculty grouping
considered an essential element in the faculty in-service
training program.

The analysis of faculty teaching objectives in-
dicated that virtually all faculty, regardless of faculty
grouping, considered the cognitive areas of teaching to
be the most important teaching objectives. These areas
included the development in the student of an awareness
to identify, analyze, and formulate solutions to prob-
lems, provide for student mastery of subject matter
through the acquisition and assimilation of knowledge,
and the instilling in the student a sense of accomplish-
ment and satisfaction in giving the student something
that can be identified as being necessary for his or
her life's work. The two affective teaching objectives
were consistently ranked either last or next to last in
rank order of importance. Thus, there would appear to
be no basis for differentiating between cognitive and
affective teaching objectives in the development of the
faculty in-service training program.

Recommendations

The recommendations contained are based upon the assumption that the faculty in-service training program will be two and one-half days in length or a 20-hour in-service program.

Recommendation 1: The most important area that faculty indicated should be included in the in-service training program was the area of advising and counseling students. It is recommended that a four-hour block of instruction be dedicated to this area. The university's psychology department should have the responsibility for developing this area. In addition to a review of basic psychology and student problem analysis, part of this workshop should include the case problem method of study. Either real or hypothetical situations should be developed for faculty to discuss and develop solutions.

Recommendation 2: The area of evaluating students, which included the development of valid and reliable examinations, use of objective and essay tests, methods of evaluation other than examinations, term papers, and research papers, should also be a four-hour block of instruction. The School of Education should have the prime responsibility for developing this area. In addition to workshop instruction involving all faculty, this area should also have specialized instruction by academic division or predominant teaching area that would be appropriate for each department within the university.

Recommendation 3: A three-hour block of instruction should be included in the area of communication theory. This would essentially include the idea of thought transmittal and methods to assure effective communication. The areas of journalism and oral communication within the university should have joint responsibility for developing this facet of the faculty in-service training program. The area of communication theory would lend itself well to the case method approach in being able to identify and resolve problem areas of communication in either real or hypothetical situations.

Recommendation 4: A four-hour block of instruction should be dedicated to the area of tests and measurements. This would include a basic understanding of research data, using descriptive and inferential statistics, histograms, correlation-scatter diagrams, standard error, hypothesis testing, regression, and analysis of variance and covariance. The mathematics department within the university should have the responsibility for developing and conducting this area of the faculty in-service training program.

Recommendation 5: There were four different areas that various groups of faculty considered to be important and to be included in the faculty in-service training program. These included teaching techniques and style, class preparation, course preparation, and audio-visual materials. It is recommended that a two-hour

block of instruction be conducted for each of these areas. The instruction in these areas would be conducted simultaneously and faculty would have the choice of attending one of the many areas involved. The School of Education should have the responsibility for the development of the workshops in all of these areas.

Recommendation 6: One of the majors areas of interest by faculty was the area involving student characteristics. This area would include the nature of the college student, goals, aspirations, family background, mental abilities, and a comparative analysis of present and prior college students. It is recommended that this in-service area not be handled during the 20-hour in-service training time but be conducted sometime throughout the academic year during one of the weekly faculty meetings. The data compiled by the American College Testing Program for Bob Jones University should be the source for this area. It is recommended that the Registrar's Office have the responsibility for the development of this area.

After the completion of the in-service program, an evaluation of each workshop will be undertaken. Based upon the data assembled from each workshop evaluation, it will be determined whether similar type items should be included in future faculty in-service training programs, whether the item should be expanded, or dropped entirely.

Appendix C summarizes the organization of events
and time period for the faculty in-service training pro-
gram as it actually occurred.

Implications of This Study

Because of the major purpose of this study, it
would be anticipated that teaching at Bob Jones University
would become more effective with the faculty more respon-
sive to the needs of students and to his or her respon-
sibilities in the classroom. Bob Jones University is a
teaching oriented institution as compared to a teaching/
research university. Teaching loads at Bob Jones
University are higher than at most institutions. Faculty
spend a great deal of time in the classroom with as many
as five different class preparations each week.

The workshops that faculty indicated should be
presented to improve his or her teaching included class-
room presentation, class preparation, and use of the
various ways of evaluating students. Two of the areas
that faculty indicated to be extremely important were
the areas of communication theory and advising and
counseling students. Faculty should become more percep-
tive in his or her dealings with students as a result of
the workshops in all of these areas.

Implications for Further Study

This study which developed a faculty in-service
training program at Bob Jones University can be

duplicated at any other college or university that desires to improve the quality of classroom instruction. Similar procedures could be adopted whereby another institution could gather, compile, and evaluate the areas that faculty members consider to be important in faculty in-service training programs. If higher education is truly concerned with the improvement of classroom instruction, one way to determine those areas that need improvement is to ask those who are involved in the process of teaching. If the faculty in-service training programs contain those items that faculty consider to be necessary for them, the in-service training program then takes on added meaning for those who participate. The faculty involved should be more alert and responsive and more willing to cooperate and endeavor to glean from each workshop knowledge that will improve their classroom performance.

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APPENDICES

APPENDIX A

QUESTIONNAIRE AND COVER LETTER SENT

TO MEMBERS OF THE FACULTY AT

BOB JONES UNIVERSITY

November 14, 1975

Dear Faculty Member:

Attached you will find the questionnaire to which I referred in a recent faculty meeting. Because I am writing my doctoral dissertation on faculty development in higher education, I am asking you to reflect for a moment and make a self-appraisal of your teaching strengths and weaknesses and your objectives as a teacher. The ultimate purpose of this dissertation project is (1) to establish a methodology for developing in-service programs and (2) to determine what in-service programs would be most appropriate at Bob Jones University.

After you have completed the questionnaire, please place it in the mailbox designated "Faculty Development Survey Forms" located at the faculty mail credenzas in either the Alumni Building (first floor, off center lobby), Fine Arts Building (outside Music Library), or the Science Building. Please return completed questionnaires no later than Friday, November 21, 1975.

Although I do not ask for your name, you will notice a number on the last page of the questionnaire. This number can identify you, if necessary, but will be used only to determine who has not returned the questionnaire. Your anonymity will not be compromised.

I appreciate your cooperation in responding to the questionnaire and in helping me complete my final doctoral requirement. If you do not understand an item, please call me at Extension 243 or at home, 268-0430. Your complete, honest, and independent response is essential.

Do it now.

Thank you.

Richard E. Leiter, Dean
School of Business Administration

BOB JONES UNIVERSITY
FACULTY DEVELOPMENT PROGRAM SURVEY

PART A - Background Information - Circle the number beside the applicable response in each of the items below.

(1) Area of University Assigned

1 College of Arts and Science
2 School of Business Administration
3 School of Education
4 School of Fine Arts
5 School of Religion

(2) Teaching Status

1 Full-time
2 Part-time
‘ 3 Graduate Assistant

(3) Years of Full-time College or Community College Teaching Experience

1 Less than 2 years
2 2-5 years
3 6-10 years
4 11-15 years
5 16-20 years
6 Over 20 years

(4) Highest Degree Completed

1 Bachelor's
2 Master's
3 Doctorate

(5) Age

1 21-29
2 30-39
3 40-49
4 50-59
5 Over 60

(6) Sex

1 Male
2 Female

(7) Marital Status

1 Single
2 Married

(8) Did you do your undergraduate work at Bob Jones University?

1 Yes
2 No

(9-10) Predominant Teaching Area (Only circle one area)

01 Art
02 Applied Sciences (Home Economics, Nursing, Medical Missions)
03 Business (Accounting, Management)
04 Cinema
05 Education - Elementary
06 Education - Secondary, including Physical Education
07 English (Theory, Composition, Literature, Linguistics)
08 Language - Ancient (Greek, Hebrew)
09 Language - Modern (French, German, Spanish)
10 Music (Theory, Sacred, Applied)
11 Office Administration (Typewriting, Shorthand)
12 Religion (Bible, Church History, Church Administration, Missions)
13 Science - Mathematical (Math, Computer Science)
14 Science - Natural (Biology, Chemistry, Physics)
15 Science - Social (History, Social Studies, Psychology)
16 Speech (Theory, Interpretative, Public)
17 Speech (Radio and Television, Dramatic Production)
18 Other (Specify)_____

(11) Did you have any graduate courses designed specifically to be a preparation for college teaching such as Philosophy of Higher Education, Instruction in Higher Education, Student Counseling in Higher Education, etc. ?

1 Yes
2 No

If yes, indicate course title and credit hours.

_____   _____

_____   _____

Part B. This section contains two categories entitled "Instructional Areas" and "Non-Instructional Areas. " Each one contains eight items. Rank the eight instructional items in order of importance according to where you feel improvements could be made in your teaching. (For example, a rank of 1 beside "Teaching Techniques" would indicate that you believe "Teaching Techniques" training to be the most important item for you and should be part of any faculty in-service training program. A rank of 2 beside "Course Preparation" would indicate you believe this would be the second most important in-service training area, again for you. The bottom rankings would indicate that you are familiar with these areas and in-service training would not appreciably benefit you.) Rank order all items, beginning with 1 as most important and ending with 8 as least important, being careful to use each number only once.

Instructional Areas	Description
(12) _____ Audio Visual Materials	Understanding the purpose and place of audio visual materials, when to be used, mechanics of equipment operation, knowledge of available audio visual materials, use and preparation of materials such as overlays and handouts.
(13) _____ Class Preparation	Includes the development of lesson plans and class outlines; organization of teaching materials.
(14) _____ Communication Theory	Developing an understanding of transmittal of thought and ideas from teacher to student; overcoming communication obstacles and developing good communication skills; vertical and horizontal communications; the grapevine.
(15) _____ Course Preparation	Development of course objectives, preparation of syllabi, knowledge of library resources.
(16) _____ Curriculum Theory	Understanding educational objectives of curriculum organization, purpose of academic major and minor programs.
(17) _____ Evaluating Students	How to develop valid and reliable examinations; use of objective and essay tests; methods of evaluation other than examinations, term projects, and research papers.
(18) _____ Presentation	Understanding the proper techniques of public speaking, voice inflection, eye contact, gestures, mannerisms; improving classroom teaching image.
(19) _____ Teaching Techniques and Style	Understanding the various teaching methods; for example, lecture, discussion, seminar, case method, and how and when each should be used.
_____ Other (Specify)	_____

Part B. (Continued) Rank the following eight non-instructional items in order of importance in what would provide you the greatest additional knowledge and understanding in higher education. Rank order all items, beginning with 1 as the most important and ending with 8 as the least important, again being careful to use each number only once.

Non-Instructional Areas	Description
(23) ____ History of Higher Education	Origin of higher education from inception to present time; emphasis on American higher education; evolution of the American college system.
(24) ____ History of Bob Jones University	Background on the founding of Bob Jones University; biography of Bob Jones, Sr.; chronology of major events in the history of Bob Jones University.
(25) ____ Advising and Counseling Students	Overview of basic psychology with emphasis on determining root problem areas; understanding of existing sources of guidance within the University; identification of problems which may be encountered
(26) ____ Characteristics of the College Student	Nature of the college student, goals, aspirations, family background, mental abilities; comparative analysis of present and prior college students.
(27) ____ Understanding Standardized Tests	Purpose of such tests as American College Test (ACT) and the Graduate Record Exam (GRE); interpretation of test results.
(28) ____ Tests and Measurements	Designed to provide a basic understanding of research data, using descriptive and inferential statistics; histograms, correlation-scatter diagrams, standard error, hypothesis testing, regression, analysis of variance and co-variance.
(29) ____ Academic Policies of Bob Jones University	Background and philosophy behind non-accreditation, no academic rank structure, grade point system, etc.
(30) ____ Administrative Policies of Bob Jones University	Non-academic areas such as housing and subsistence provisions, non-salary fringe benefits, family educational benefits, etc.
____ Other (Specify)	_____

Part C. Rank order the following five items in the order of what you consider your teaching role or objectives to be.

1 - Most important teaching objective
2 - 2nd most important teaching objective
3 - 3rd most important teaching objective
4 - 4th most important teaching objective
5 - 5th most important teaching objective

(34) _____ Develop or reinforce a student's own value system and have the student sensitive to the values of others.

(35) _____ Provide the student with a learning experience that can be used in almost any academic endeavor.

(36) _____ Provide for student mastery of subject matter through the acquisition and assimilation of knowledge.

(37) _____ Instill in the student a sense of accomplishment and satisfaction in giving the student something he can identify as being necessary for his life's work.

(38) _____ Develop in the student an awareness to identify, analyze and formulate solutions to problems.

Part D. Workshop Scheduling - Rank order the following four items according to your time preference of in-service scheduling, beginning with 1 as your most preferred meeting time and ending with 4 as your least preferred meeting time.

(41) _____ Weekday evening (During school year)

(42) _____ Weekday late afternoon (During school year)

(43) _____ Saturday morning (During school year)

(44) _____ Prior to start of school year

_____ Other (Specify) _____

(47-49) _____

APPENDIX B

RANK ORDER OF EACH DEVELOPMENTAL AREA

AND TEACHING OBJECTIVE BY THE

VARIOUS FACULTY GROUPINGS

Rank Order of Each Developmental Item and Teaching Objective By the Respective ... By ... Classification

	Academic Division					Teaching Status			Years Teaching						Highest Degree			Age					Sex		Marital Status		BJU Undergrad	
	Arts & Science	Business	Education	Fine Arts	Religion	Full Time	Part Time	Graduate Assistant	2	2-5	6-10	11-15	16-20	20	Bachelor's	Master's	Doctorate	21-29	30-39	40-49	50-59	59	Male	Female	Single	Married	Yes	No
Instructional Areas																												
Audio-Visual Materials																												
Class Preparation																												
Communication Theory																												
Course Preparation																												
Curriculum Theory																												
Evaluating Students																												
Presentation																												
Teaching Techniques & Style																												
Non-Instructional Areas																												
History of Higher Education																												
History of Bob Jones University																												
Advising & Counseling Students																												
Characteristics of the College Student																												
Understanding Standardized Tests																												
Tests & Measurements																												
Academic Policies of BJU																												
Administrative Policies of BJU																												
Teaching Objectives																												
Reinforce Student's Value System																												
Provide Learning Experience																												
Develop Student Mastery of Subject																												
Instill Sense of Accomplishment																												
Problem Solving Approach																												
N =	93	11	15	80	29	148	42	38	65	48	47	20	21	27	72	125	31	83	65	54	23	3	120	102	56	172	160	48

Rank Order of Each Developmental Area and Teaching Objective

Instructional Areas	Art	Applied Sciences	Business	Cinema	Elementary Education	Secondary Education	English	Ancient Language	Modern Language	Music	Office Administration	Religion	Mathematical Science	Natural Science	Social Science	Speech Theory	Speech Applied
Audio-Visual Materials	6	5	3	7	4	7	5	5	6	6	7	1	7	6	5	5	7
Class Preparation	7	8	8	1	7	6	6	6	8	5	8	7	4	5	8	4	6
Communication Theory	2	1	1	3	3	1	2	1	4	1	5	3	1	2	2	7	5
Course Preparation	8	3	6	4	6	5	4	7	3	3	4	5	2	7	4	2	2
Curriculum Theory	1	4	5	6	1	2	7	6	7	6	1	4	8	3	6	3	3
Evaluating Students	3	2	2	2	2	3	1	4	1	2	3	2	3	1	1	1	1
Presentation	4	6	7	8	8	8	8	3	5	7	6	8	6	8	7	8	8
Teaching Techniques & Style	5	7	4	5	5	4	3	2	2	4	2	6	5	4	3	6	4

Non-Instructional Areas	Art	Applied Sciences	Business	Cinema	Elementary Education	Secondary Education	English	Ancient Language	Modern Language	Music	Office Administration	Religion	Mathematical Science	Natural Science	Social Science	Speech Theory	Speech Applied
History of Higher Education	7	8	7	6	6	8	7	6	8	4	6	6	6	6	6	6	6
History of Bob Jones University	8	7	8	7	8	7	8	7	7	5	8	7	7	8	8	8	8
Advising & Counseling Students	1	1	3	1	1	1	1	2	1	1	1	2	1	1	1	2	1
Characteristics of the College Student	2	2	2	2	3	3	2	3	2	2	2	3	2	3	2	1	3
Understanding Standardized Tests	5	5	4	4	4	5	5	4	3	8	3	4	4	2	4	4	4
Tests & Measurements	3	4	1	3	2	2	3	1	4	6	4	1	3	4	3	3	2
Academic Policies of BJU	4	3	5	5	5	4	4	5	5	3	5	5	5	5	5	5	5
Administrative Policies of BJU	6	6	6	8	7	6	6	8	6	7	7	8	8	7	7	6	7

Teaching Objectives	Art	Applied Sciences	Business	Cinema	Elementary Education	Secondary Education	English	Ancient Language	Modern Language	Music	Office Administration	Religion	Mathematical Science	Natural Science	Social Science	Speech Theory	Speech Applied
Reinforce Student's Value System	1	3	4	4	4	3	4	4	4	3	4	5	2	5	4	2	5
Provide Learning Experience	4	2	5	5	3	4	5	5	3	5	5	4	2	3	3	4	4
Develop Student Mastery of Subject	5	4	2	2	5	5	2	3	1	4	3	3	4	2	1	5	2
Instill Sense of Accomplishment	3	1	3	3	1	2	1	1	2	1	1	1	1	4	5	1	3
Problem Solving Approach	2	5	1	1	3	1	3	2	5	2	2	2	4	1	2	3	1
N =	5	9	4	6	4	23	33	8	7	37	7	19	6	10	17	25	8

APPENDIX C

FACULTY IN-SERVICE TRAINING PROGRAM

SCHEDULE OF EVENTS

BOB JONES UNIVERSITY
Faculty In-Service Training Program
Schedule of Events

Friday, September 3, 1976

Morning Session - EMPHASIS: THE STUDENT
Advising and Counseling (Program coordinated by
the Psychology Department and the University
Counselor's Office)
Small Group Sharing Sessions

Afternoon Session - Mini-Sessions
Course Preparation
Objectives, Syllabi
Library Resources
Class Preparation
Lesson Plans
Successful Teaching Criteria
Audio-Visual (Hands on Media Workshop)
Student Evaluation
Subjective Test Development and Evaluation
The Development of Objective Tests
Test Validity and Reliability
Test Data Interpretation

Evening Session
50th Anniversary Banquet

Saturday, September 4, 1976

Morning Session - EMPHASIS: THE TEACHER
Graduate Assistant Comments
Communication (Program coordinated by the Oral
Communications Department)
Theory
Video Tape Presentations and Evaluation
Unique Techniques in Teaching

Afternoon Session - Repeat of Friday afternoon Mini-
Sessions

Monday, September 6, 1976

Morning only - Departmental Meetings