Purpose of the Study

The study measured and compared the differences in attitude changes produced by two alternative field-based teacher education programs. Important in this problem was the exploration of what education students' attitudes were and how alternative programs in teacher education could best contribute to potential teachers those attitudes believed to be favorable for them.

The major objectives were:

1. Identify and describe the alternative teacher education programs from which the study population was selected.

2. Determine attitude changes in a pre/post-test design among members of the study population.

3. Determine if field-based teacher education produces significantly different attitudes toward the teaching profession.

4. Present a summary to the cooperating institutions of the conclusions and implications of the study.
Design of the Study

The investigation's population consisted of 191 participants registered in the sophomore block teacher education programs of Oregon College of Education (OCE) and Oregon State University (OSU), Fall Term 1974.

During the first week of Fall Term 1974, a pre-test was administered to a section of field-based students in each college. The pre-test consisted of the nationally normed, 150-item attitudinal survey, The Minnesota Teacher Attitude Inventory.

Two weeks prior to the end of Fall Term, the two pre-tested groups were given the same inventory as a post-test. These group scores were the dependent variable in the design.

The treatment of data was designed to explore the hypothesis of the investigation, which stated: There is no significant difference between the mean scores of the field-based programs at Oregon College of Education and Oregon State University.

The statistical analysis chosen to provide data on the hypothesis was the analysis of covariance. For this study, the pre-test was considered the covariant factor. If the computed F value generated by the analysis of covariance was found to be no greater than the tabular F value at the .05 level of significance, the hypothesis would be retained.
Findings of the Study

The hypothesis was rejected. There was a significant difference in the change in the mean scores of the pre-tested and post-tested groups under the two treatments.

The computed F value generated by the analysis of covariance was 129.77, and the tabular F value at the .05 level of significance was 4.05. The computed F value was greater than the tabular F value, therefore the hypothesis was rejected. The independent variable, field-based teacher education, was judged effective in causing the significant mean score differences to occur.

Variables of age and sex were also computed with the data and found to have no significant effects upon the results.

To further validate the data, a Least Significant Difference test was computed to clarify whether all or some of the means are different from one another. Significant results were obtained from this test which retained or rejected the a priori hypotheses selected.

Conclusions of the Study

1. Students in field-based teacher education programs were determined to have a significant change in attitude toward teaching as a profession and toward the teacher-pupil relationship.

2. The field-based programs at OCE and OSU produce significantly different attitudes from each other.
3. Attitudinal testing can serve as effective input in the development of teacher education curricula.

4. Teacher education needs to continue its revamping and wholesome change if it is going to have a realistic effect on the attitudes of its graduates.

Recommendations

1. Attitudinal testing is a vital and important area of the evaluation process. To gain further information on teacher education effectiveness, it is recommended that further studies investigate the affective development of students.

2. The MTAI is an attitudinal test that was developed in the 1950's. A new attitudinal instrument is needed that incorporates the principles being advocated by the teacher preparatory institutions to test their affective goals. Such an instrument would likely produce more informative results than were obtained in this study.

3. Inter-institutional attitudinal testing should continue using the newly developed instrument, and include the other teacher preparation institutions in the state.

4. This study should be replicated to further test the significance of the reported findings. It is suggested that, in any replication, additional efforts be made to identify the specific attitudinal factors influencing significant attitudinal changes.
A Comparison of Attitudes between Two Field-Based Teacher Education Programs

by

Floyd Rex Hunsaker

A THESIS

submitted to

Oregon State University

in partial fulfillment of the requirements for the degree of

Doctor of Education

Completed May 1975

Commencement June 1975
ACKNOWLEDGEMENTS

The real value of this study is the personal friendships and associations that it has generated.

Deep appreciation beyond saying goes to my committee: Dr. Wayne Courtney, Dr. Robert McCain, and Dr. Clifford Trowe. Plus, who is more fortunate to have three major professors the caliber of Dr. Mel Miller, Dr. Henry TenPas and Dr. Frank Cross. Their guidance, friendship and love have been rewarding and gratifying aspects of my tenure here. Special thanks to Dr. Tom Grigsby, whose friendship and help I sincerely value.

Grateful acknowledgment is also made to Dr. Ken Myers and the School of Education at Oregon College of Education, without whose sincere cooperation and understanding, this study could not have taken place.

To my colleagues, Dick Swinney, Bill Taylor, Bill Wieser, and others, your encouragement and help was appreciated. To Rocco, Karen and Jerry, we've come a long way.

To my father and mother—no more supporting and encouraging parents could a man ask for—I give you a son's love and deep appreciation. And, to the rest of my family, thanks for your encouragement.

Finally, to my wife, Norma, who let me do my thing for two years of our lives, my respect, gratitude and love for your sacrifices.
# TABLE OF CONTENTS

## I. INTRODUCTION

- Statement of the Problem ........................................ 4
- Purpose of the Study ............................................. 5
- Objectives of the Study ........................................... 5
- Rationale of the Study ............................................ 6
- Definition of Terms ............................................... 9

## II. RELATED LITERATURE

- Teacher Education, What Are the Alternatives? .............. 14
- The Competency-Based or Performance-Based Teacher Education Program ........................................ 19
- The Humanistic Approach to Teacher Education .......... 25
- Career Education and Teacher Education .................. 30
- The Field-Based Approach to Teacher Education ......... 38
- Summary ..................................................................... 41

## III. DESIGN OF THE STUDY

- Selection of the Population ........................................ 43
- Selection of the Instrument ....................................... 46
- Collection of Data ................................................... 47
- The Dependent Variable ............................................ 48
- The Statistical Design .............................................. 49
- Method of Analysis .................................................. 49

## IV. PRESENTATION OF THE FINDINGS

- Mean Score Ranking of Attitude Changes .................... 52
- Analysis of Covariance ............................................ 53
- Effect of Age and Sex .............................................. 57
- Comparison to the Nationally Normed Minnesota Teacher Attitude Inventory Scores ................ 59
- Summary ..................................................................... 60

## V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

- Nature and Purpose of the Study ............................... 63
- Review of Related Literature .................................... 65
<table>
<thead>
<tr>
<th>Design of the Study</th>
<th>67</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings of the Study</td>
<td>68</td>
</tr>
<tr>
<td>Discussion of the Findings</td>
<td>69</td>
</tr>
<tr>
<td>Conclusions of the Study</td>
<td>71</td>
</tr>
<tr>
<td>Recommendations for Further Study</td>
<td>72</td>
</tr>
<tr>
<td><strong>BIBLIOGRAPHY</strong></td>
<td>74</td>
</tr>
<tr>
<td><strong>APPENDICES</strong></td>
<td>80</td>
</tr>
<tr>
<td>Appendix A.  Theory and Practicum Models</td>
<td>80</td>
</tr>
<tr>
<td>Appendix B.  Minnesota Teacher Attitude Inventory and Answer Sheet</td>
<td>83</td>
</tr>
<tr>
<td>Appendix C.  Computation of Least Significant Difference Values</td>
<td>91</td>
</tr>
<tr>
<td>Appendix D.  Individual Scores for MTAI by Respondent Number for Oregon State University</td>
<td>93</td>
</tr>
<tr>
<td>Appendix E.  Individual Scores for MTAI by Respondent Number for Oregon College of Education</td>
<td>97</td>
</tr>
</tbody>
</table>
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Competency Based Teacher Education Pushes.</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>Field-based University of Florida Schematic Diagram.</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>Professional Development for Career Education Personnel.</td>
<td>36</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adjusted Mean Scores of the MTAI.</td>
<td>53</td>
</tr>
<tr>
<td>2</td>
<td>Estimates of Coefficients of Covariant Analysis.</td>
<td>54</td>
</tr>
<tr>
<td>3</td>
<td>Least Significant Difference Test Results.</td>
<td>56</td>
</tr>
<tr>
<td>4</td>
<td>Means of Age and Sex.</td>
<td>57</td>
</tr>
<tr>
<td>5</td>
<td>Age and Sex Effect in Analysis of Variance.</td>
<td>58</td>
</tr>
<tr>
<td>6</td>
<td>Age and Sex Effect in the Analysis of Differences between the Pre-test and Post-tests.</td>
<td>58</td>
</tr>
<tr>
<td>7</td>
<td>Age and Sex Effect with Covariant Analysis.</td>
<td>59</td>
</tr>
<tr>
<td>8</td>
<td>OSU's and OCE's Mean Scores Compared Nationally with MTAI Scores.</td>
<td>61</td>
</tr>
</tbody>
</table>
A COMPARISON OF ATTITUDES BETWEEN TWO FIELD-BASED TEACHER EDUCATION PROGRAMS

I. INTRODUCTION

The central task of teacher education is to provide teachers with a sense of purpose, or, if you will, with a philosophy of education. This means developing teachers' ability and their desire to think seriously, deeply, and continuously about the purposes and consequences of what they do...

There has been much written about our teacher training programs in recent years. Silberman (59) made the above statement to show his concern for the creation and expansion of an effective teacher preparation program. The literature has shown that there is a growing amount of interest for a more pertinent and enriched teacher preparation program.

Buchanan (12) whose comments are indicative of the growing concern for more current teacher preparatory programs says,

...the typical teacher preparation sequence includes a smattering of education philosophy and history, an overview of one or several education psychologies, a methods course which is often only a bag of tricks, and a student teaching experience, which may or may not allow the student to function fully as a teacher in the classroom to which he has been assigned. Nowhere in this sequence are the unique responsibilities of the teacher as an individual discussed.

According to writers in the field, the students and parents of today's citizenry are telling us that this type of preparation is not meeting their needs.
Researchers have supported these statements. Two studies have been conducted which indicate that students generally are critical of their professional training (44) and education courses are of little or no importance in the development of effective teachers (1).

The prime objective of teacher education everywhere is to turn out teachers skillful in helping students learn. But because of the concern mentioned above, the demand has increased for changes in teacher preparation programs to turn out these skillful helpers.

The response to changes in teacher education is varied. Combs (17) says,

Many efforts at reform of teacher education have resulted in little more than a reshuffling of the same old courses, a heavier load of content for teacher education students, and some changes in procedures for certification and licensing of teachers. That is not enough. Teacher education needs much more than a tinkering job.

Anderson (4) states that,

One of the unpleasant truths we must face is that the typical American teacher . . . is not very well prepared. Since standards of certification are low, and since the caliber of professional education courses ranges all the way from excellent to poor, the certified teacher is not always the fully qualified professional that we assume he is.

Lanier and Henderson (41) also state, "teacher educators have received scathing criticism, threats, condemnation and verbal spanking for decades. It is frankly difficult to fathom how it could get any worse." Silberman (58) aptly summarizes the situation, "there is probably no aspect of contemporary education on which there is
greater unanimity [sic] of opinion than that teacher education needs a vast overhaul. Virtually everyone is dissatisfied with the current state of teacher education, even the educationist establishment itself."

Humanists have further supported these statements. Combs (16) says, "the tasks of our schools must extend beyond basic skills . . . the sheer volume of information precludes any possibility that we can ever again hope to construct a common curriculum for everyone."

The Gallup Polls of Public Attitudes (29) toward education the past three years have also indicated skills parents feel teacher and schools need. Some of their conclusions were,

The good school has . . . teachers who are interested in their work and in their students, teachers who make their classes interesting and relevant, variety in curriculum to meet the needs of all the students, not just college bound, discipline and respect for authority with up to date teaching methods.

Also the Gallup Polls (29) indicated, "difficulty of getting good teachers ranked fourth after discipline, integration and finances, of the parents' opinion on what the biggest problems were with the public schools."

In response to this, several teacher institutions have modified their programs to meet the challenges presented. Pioneering research has been done at the University of Florida, Temple University, Colorado College, Oregon State University and Oregon College of Education. These institutions believe that early field experiences
can be helpful to introduce the prospective educator to the role of the instructor in his environment within the first or second year of their programs. The literature has shown that other attempts are being made to meet the cry for reform.

**Statement of the Problem**

Teacher preparation programs in American colleges and universities have traditionally been campus-based with a segment of the program, the student teaching experience, offered off the campus in the public schools. Researchers increasingly suggest that the complex society of the day and the resultant complexity of problems facing the classroom teacher, require some modification of the system that prepares these practitioners.

One of the efforts being made to provide alternative approaches to the preparation of teaching personnel is the development of a program that is primarily field-based in nature with prospective teachers introduced to the complexity of the modern classroom at the beginning of the student's university experience. This approach is developed around the belief that students should have the opportunity to determine as early as possible in their educational program the appropriateness of teaching as a career choice. Implied in this process is the idea that valid career decisions will be made earlier, based on a concrete perception of the role of education on the premise that this field-based
The program will develop in education students attitudes toward teaching and students that are significantly different from those in traditional programs. This study is an examination of the impact of two alternative teacher preparatory programs on the development of attitudes of prospective teachers as measured by the Minnesota Teacher Attitude Inventory (MTAI).

**Purpose of the Study**

The purpose of this study was to determine the differences in attitude changes produced or developed in two alternative programs of teacher education.

**Objectives of the Study**

The central problem of this study was to examine the difference in attitudes displayed by students in alternative teacher education programs as measured by a reliable testing instrument in a pre-test/post-test design. Differences that occurred during the two programs were identified to see if the programs were responsible for the changes.

The major objectives of the study were to:

1. Identify and describe the alternative teacher education programs from which the study population was selected.
2. Determine attitude changes in a pre/post design among members of the study populations.

3. Determine if field-based teacher education produces significantly different attitudes toward the teaching profession.

4. Present a summary to the cooperating institutions of the conclusions and implications of the study.

Rationale of the Study

Iannone (35) says, "we must train each teacher to become more of a human being with a greater awareness of the needs and senses of today's youths. The teacher doesn't need new skills but such qualities as realness, empathy, openness, warmth, and understanding."

In America, we have gone through many stages of development trying to reach a common philosophy on which legitimately to base our educational system. We turned away from the teachings of Dewey, Whitehead and others. We turned away mainly because our previous educational system turned out people who made us the most powerful country in the world. Voices that were advocating change were hard put to get their points over.

Many present day experiences have shown us that we cannot rest on our laurels. We can be proud of our accomplishments, but must move forward as new problems are presented to us. We were dealing with an information-poor, experience-rich population in those
days. Today's pupil, with the advent of television and voluminous amounts of magazines and newspapers, is just the opposite, "information-rich and experience-poor."

Who is going to take the responsibility for this thrust? Historically, Americans have maintained a desire to keep the control of education at the community level. This set up many excellent community-based programs that were designed to be used with little or no dissemination to the other facets of education. Because of societal pressures the federal government has entered in and taken a role in this area of leadership, especially since Sputnik. This has led to many new programs with federal monies being used as incentives.

Recently, commissions financed by various federal acts have pointed out other areas where leadership must come, such as Edgar Morphet's (48) Commission on Improving State Leadership in Education. In it they say that,

Each state is basically responsible for the provisions for education within its borders. Each state, therefore, should be expected to assume the major responsibility not only for developing defensible and viable plans for the organization and support of education, but also for providing the leadership and services that are essential for planning and effecting improvements in education.

The implications of the expanding role of the state departments of education are significant.
Who is going to take the role of leadership is still in doubt, but someone has to and it does not need to be the same one in every instance. Many authors advocate a combination and unification of them all to insure the needs are met.

One area we must keep in mind is the affective area of development. Humanists such as Combs, Rogers, Maslow and Purkey state that humanistic and affective goals must be "rescued from oblivion and raised to the front rank." In assessing our teacher education programs, we need to keep this important domain in mind. The value that can be derived from measuring attitudes in the affective domain should be evident. Investigations carried on by the above authors over the past ten years indicate that the attitudes of teachers toward children and school work can be measured with high reliability and they are significantly correlated with the teacher-pupil relations found in the teachers' classrooms. One such instrument which will measure these characteristics is the Minnesota Teacher Attitude Inventory (MTAI). It has emerged from similar investigations as the above and is designed to measure those attitudes of a teacher which predict how well satisfied he will be with teaching as a vocation. The most direct use to which the MTAI can be put is in the selection of students for teacher preparation and the selection of teachers for teaching positions. A parallel use is in counseling students regarding a vocational choice. These two uses stem directly from research
evidence available at present. Logically, the use of the Inventory can be extended to other areas; i.e., measuring the effectiveness of a teacher education program or measuring the ability to work with youth groups.

This attitude comparison study is needed to assist us in determining if the programs being initiated and maintained at the selected institutions bring about significant differences in the students' outlook toward teaching as a profession and to help them make valid decisions concerning the selection of a profession.

Definition of Terms

Broudy (10) says that "definitions are spectacles that a person writes so someone can perceive a subject more clearly." What we do not realize is that, to another person, these spectacles may be cloudy and colored so that the subject is distorted. This standardized terminology will be used so that his definitions will be as clear as possible, realizing that we may all see things differently, but at least communicating what is being referred to in this paper. The definitions mostly come from Good's Dictionary of Education (33).

Accountability - The idea that teachers and school systems may be held responsible for actual improvement in pupil achievement and that such improvement is measurable through tests of teacher effectiveness constructed by outside agencies.
Affective Domain - The domain which deals with values, attitudes and interests and is central to every part of the learning and evaluation process. Krathwohl (40) lists five categories of educational objectives in the affective domain; Receiving, Responding, Valuing, Organization of Values and Characterization by a Value or a Value Complex. Most of the instruction in our schools are built upon the first two of the five categories.

A. N. O. V. A. - Analysis of Variance; an arithmetic procedure for treating data for the criterion variable; it results in a partition of the total sum of squared deviations (of all observations) from the mean into sums of squares attributable to the various experimental effects, to the interaction among them, and to the sampling error; thus it facilitates test of the significance of these experimental and interaction effects.

Attitudes - The predisposition or tendency to react specifically towards an object, situation, or value; usually accompanied by feelings and emotions.

Behavioral Objectives - The aims or objectives of education stated as actual performance criteria or as observable descriptions of measurable behavior. It is a practical way of specifying overt behaviors that will be accepted as evidence that learning has taken place. Usually written in three domains--Cognitive, Affective, and Psychomotor.
Career Education - A generally accepted definition of career education has not emerged yet. At present, definitions of career education can be placed on a continuum that has vocational education at one extreme and "life careers" education at the other. Definitions find their position on the continuum in terms of the expressed relationship between the vocational career and other education. Career education is a key part of the total educational system in Oregon schools. It embraces that each person fills several functions or roles throughout a lifetime including the role of the (a) learner, (b) producer, (c) citizen, (d) consumer, (e) individual, and (f) family member. Comprehensive education in Oregon must provide awareness, exploration, and preparation for these and other life roles.

C.B.T.E. (Competency-Based Teacher Education) - The basic performance or competency-based model consists of three logically sequential steps. First, we stipulate (identify, develop), in behavioral terms, the "competencies" (behaviors, skills, abilities) of a successful teacher. Second, we devise measures by use of assessment devices to ascertain the degree to which the student possesses these competencies. Third, we design a program which demonstrably produces these competencies.

Covariance of Analysis - An extension of the method of analysis of variance in which adjustments are made in the data for the criterion variable on the basis of data collected on one or more other variables which vary concomitantly with the criterion variable.
**Field-based** - Actual experience away from college campus, within schools or their environment, in dealing with educational problems; part of the program offered by teacher education institutions, usually conducted in schools that are not formally under direct control of or affiliated with the teacher education institution.

**Humanism** - Philosophical theory that emphasizes human values. The teaching of skills is personal relationships. It is also called a psychology that is deeply interested in the person's own experience, his internal life. It seeks understanding the nature of people's feelings, attitudes, beliefs, concepts, purposes, desires, loves, hates, and human values. Because these qualities are the very ones that uniquely make us human, this psychology has come to be known as the humanist movement.

**Micro-teaching** - A scaled-down teaching encounter to serve as (a) a preliminary experience and practice in teaching, (b) a research vehicle to explore training effects under controlled conditions, and (c) an in-service training instrument for experienced teachers, usually five minutes in length, involving no more than eight students, often recorded on videotape for analysis.

**MTAI (Minnesota Teacher Attitude Inventory)** - A nationally normed test designed at the University of Minnesota that is designed to measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships, and indirectly how well satisfied he will be with teaching as a vocation.
Modularization - An organization of a unit of time in the school day, varies in length from 15 to 30 minutes; classes may meet for one or several modules in a flexible schedule system of organization.

Self-Actualization - Maslow's term to describe the process of becoming integrated to the point of developing capacities and of accepting one's motives and goals in life.

Simulation - In learning and training, making the practice and materials resemble as nearly as possible the situation in which the learning will be applied.

Teacher Education - All formal and informal activities and experiences specifically designed to help qualify a person to assume the responsibilities of a member of the educational profession, or a program of activities and experiences developed by an institution responsible for the preparation and growth of persons preparing themselves for educational work or engaging in the work of the educational profession.

Video-tape - A tape used to record moving picture and sound by a magnetic process and often used in micro-teaching or simulation teaching in teacher education institutions.
II. RELATED LITERATURE

A great deal has been written and many questions have been asked about teacher education. The literature review disclosed sources which identified the problems and suggested various recommendations for their solutions. This chapter is divided into the five categories listed below. The categories will be followed by a summary which will attempt to restate the issues involved.

Teacher Education, What Are the Alternatives?

The Competency or Performance-Based Teacher Education Program

The Humanistic Approach to Teacher Education

Career Education and Teacher Education

The Field-Based Approach to Teacher Education

Summary

Teacher Education, What Are the Alternatives?

No man can reveal to you aught but that which already lies half asleep in the dawning of your knowledge.

Kahlil Gibran (1923)

What are the alternatives in teacher education? Combs (17) suggests that,

Some improvements in education can be brought about by spending more money, by building better schools, and by introducing new courses of study, new standards, or new
equipment. But the really important changes will come about as teachers change. Institutions are made up of people, and it is the behavior of teachers in classrooms that will finally determine whether or not our schools meet or fail to meet the challenge of our times. It is at the source of supply--in our teacher-preparation programs--that major efforts must be directed if we are to bring about the improvements we need in education.

What kind of program is needed? Taylor (63) reports that a group of educators from Denver-area school districts and Colorado teacher education institutions struggled with this question in a series of all-day meetings. They decided that a teacher education program should do the following:

1. It should make teacher preparation the continuing, cooperative responsibility of both the university and the public schools.

2. It should develop differentiated instructional roles and salary scales using student instructional assistants, student interns, and experienced teachers in the role of teacher educators.

3. It should reduce the barrier between theory and practice by providing neophyte teachers with extensive laboratory and work experiences during their preparatory program.

4. It should provide better screening of candidates and more realistic induction of students into the profession in order to reduce the current wasteful loss of certified teachers who do not teach.

This proposal proceeds along a continuum to another extreme advocated by Iannone (35) who proposes that we:

1. Eliminate schools of education and replace them with training or facilitating centers which would be available to community members, businesses, parents, and students who are interested in discovering how to teach particular skills not attitudes to individuals.
2. Schools of education can become experimental centers where prospective teachers can learn about themselves and the world within a climate of sharing, joy, music, creativity, and freedom.

3. Schools of education could train teachers to bring emotional support to today's youth. The prospective teacher's training experience could consist of only group encounter sessions and knowledge of child development. The teacher's traditional role of passing on information to today's youth is obsolete.

4. A matrix of experiences could be offered to prospective teachers. These experiences could be related to urban or suburban centers, Appalachia, Europe, etc.; that is, each prospective teacher could have the opportunity to select those experiences which best match his personality and interests.

5. An ad hoc arrangement may be possible for future schools of education. They may become multi-institutional in structure so that they may plug into any institution as the situation demands.

6. A three-year moratorium could be issued on the training of teachers. Teacher educators will then have the opportunity to have real encounters with today's youth. They will be able to match the realities of their values and interests to those of youth and society.

The range is varied in the kind and number of calls for reform. But all through the professional literature, a common core of alternatives has emerged. Cooper and Sadker (22) list new and innovative practices in teacher education. Five of these are described below:

1. Education moves into reality through:
   a. Field centered instruction - A program that moves their prospective teachers into the public schools for their instruction in order to ensure that their knowledge gets translated into behavior.
b. **Early field experiences** - Many teacher education programs are exposing teacher trainees to early, more frequent classroom experiences. Instead of waiting until the senior year before encountering students, trainees are given opportunities to work in classrooms during their freshman, sophomore and junior years.

2. Clinical or Practicum Experiences - Another technique is to increase the relevancy of college experiences by recreating the college class into a situation similar to public school teaching.

Two ways are:

a. **Micro-teaching** - Although this process can be used for many purposes, it has most frequently been utilized to help trainees develop particular teaching skills, such as high order questions, using reinforcement techniques, establishing set and many others. Micro-teaching is an active rather than a passive process; its value in helping teachers acquire particular skills has been well established.

b. **Simulation** - There are many different approaches to simulation, but basically its purpose is to permit a trainee to become acquainted with significant aspects of teaching and of being a teacher that he may not be able to experience in any other way. It is possible for trainees to encounter the most critical problems they will face in their first year of teaching.

3. Individualized Instruction - Teacher education programs are showing increasing awareness of the fact that all trainees do not possess similar learning styles or similar goals for teaching.

As a result, more and more programs are providing opportunities for pursuit of individual goals in learning situations.

This consideration of the importance of the individual has led to several new teacher education practices and decreased emphasis on groups of students being subjected to blocks or sequences of
courses. Some examples are:

a. **Competency-based curriculum** - Presently has a large number of advocates. It is a criteria-referenced program; that is, the criteria for training and the objectives are made explicit, and prospective teachers are held accountable for meeting them.

b. **Modularization or minicourses** - Some colleges are substituting more flexible instructional modules or minicourses for regular semester courses. These modules are often characterized by varying periods of time, clearly stated objectives, alternate routes for the achievement of objectives, and the use of different modes of instruction. The module approach allows the university to utilize individuals who might not be able to teach an entire course, but who have expertise in a limited area.

c. **Affective component** - Educators have recognized that they need to be concerned with the affective as well as the cognitive development of prospective teachers. Programs have recognized that before they can concentrate on the cognitive and behavioral dimensions of teaching, attention must be given to the teacher's self-knowledge, his anxieties and fears, his needs and how they might affect his relationship with students and others. In order to understand children, the teachers must first be able to understand themselves. Curriculally, this recognition has resulted in such courses and experiences as sensitivity sessions, group encounters, and value clarification.

4. **Technology in the Classroom** - Increased technology has also affected teacher training;

a. **Video-tape recorders** - A relatively inexpensive tool that has enabled us to capture actual teaching situations, visual as well as audio, in order to analyze the teaching act. Teachers are able to record their own teaching and analyze their strengths and weaknesses by themselves or with experts.

5. **The Newcomers** - One final trend is industry and the federal government. Responding to local monetary crises and education
responsibilities, the federal government has become involved in teacher education and funded a number of research and development centers and regional educational laboratories.

Private industry, e.g., Science Research Associates, has contributed to the availability of teacher education curricular materials.

Anderson (4) summarizes this well when he says,

The history of innovation in American education is not a happy one. For a variety of reasons, not the least of which has been the resistance of teachers to change, many sound ideas for improvements in the schools have been rejected without adequate trial. . . but it is now clear that, as a nation, we have entered a period of dramatic educational reform that will bring substantial changes to all levels of education, from the nursery school through the university. And, in a time for change, it is essential that programs of teacher education prepare teachers for the schools of the future rather than for those of the past.

The current trends listed by Cooper and Sadker (22) are an integral part of the required change in teacher education and will need the support of all.

**The Competency-Based or Performance-Based Teacher Education Program**

"Performance-Based Teacher Education (PBTE) or Competency-Based Teacher Education (CBTE) is a potentially powerful educational strategy which, if appropriately and wisely implemented, can bring about needed reforms in teacher education," says Karl Massanari (46).
Pomeroy (53) in a 1972 Hunt lecture sponsored for the American Association of Colleges in Teacher Education (AACTE) said, "PBTE, sporadic and scattered as it is, has the potential for restructuring the education of teachers. It bespeaks the emerging future and points the way for teacher education." These statements are representative of those of many who believe that this approach is a sound way to move teacher education forward.

McCarty (47) states,

In the current milieu, CBTE has emerged as a tentative response to the demand for more accountability in teacher education. A prospective teacher does not exit from a competency-based preparation program unless he is able to demonstrate that he has mastered all its publicly stated objectives at an acceptance level.

Why has CBTE generated a great deal of interest?

Lindsey (45) says,

The mounting evidence of the failure of the school to meet the needs of some children and youth in American society, particularly those in depressed urban areas, has led to intense public and professional interest in what teachers do in the classroom. It is believed that performance, defined as observable behavior, makes a difference in the lives of pupils.

Allen (2), as quoted in the 1973 AACTE Yearbook, concurs by saying,

Perhaps the major distinguishing characteristic of PBTE is the attempt to base all decisions about preparation on analysis of the demands of performance. Performance demands when analyzed reveal the competencies, the combinations of knowledge, skills, attitudes, and sensitivities which the teacher needs to influence the learning of others.
Programs to help teachers in preparation develop these competencies and provide actual performance which requires demonstration of specific competencies.

One important ingredient here, says Lindsey (45), is that the planning, conducting and evaluating of a competency-based program of initial teacher education cannot proceed successfully without involvement of persons from the public schools, the universities, and the state departments of education. The degree and nature of involvement may vary, but some involvement is essential at every stage in the process.

Two problems immediately follow;

1. The identification of the competencies, and
2. The design of instruction to teach them.

Lindsey (45) continues by saying,

...that there are three observations to be made in identifying CBTE competencies. They are; (a) sources employed in the process of identifying and validating competencies, (b) the scope and nature of competencies identified, and (c) the question of essential or minimal competencies requires a conception of the nature and goals of education in a particular setting and the roles of teachers in that setting.

Lindsey (46) concludes that,

When a competency has been identified, alternative behaviors relevant to it defined, and the competency validated to the extent possible, the fundamental question of instruction must be confronted. For the teacher educator, as for all teachers, that question has four parts; (a) What is the present status of the student with respect to the competency as an expected outcome? (b) What conditions will facilitate the student's progress toward achievement of the competency? (c) What interventions by the teacher educator will generate those conditions? (d) How can the achievement of the competency be determined?
These are also serious problems and need the involvement of all parties mentioned to be successfully received in teacher education today.

Proponents of CBTE and accountability in teacher education are constantly exhorting its virtues. Massanari (46) gives us a model and lists the following as benefits that can be derived from a CBTE program (Figure 1):

1. CBTE pushes educators to define professional roles more clearly.
2. CBTE pushes educators to design educational personnel development programs in their totality and in relation to the competencies required for particular roles.
3. CBTE pushes educators to relate preservice preparation programs more closely to the schools and the profession.
4. CBTE pushes educators to explicate program objectives and to make them public.
5. CBTE pushes educators to provide instruction and learning experiences which facilitate the achievement of the desired objectives.
6. CBTE pushes educators to individualize and to personalize instruction and learning experiences.
7. CBTE pushes those who provide instruction to facilitate learning rather than merely dispense information.
8. CBTE pushes educators to develop and use new kinds of training materials.
9. CBTE pushes educators to develop and use new kinds of management systems.
10. CBTE pushes educators to obtain or develop and to apply appropriate assessment techniques.
Figure 1. Competency Based Teacher Education Pushes.
11. CBTE pushes educators to conduct research and provides direction for research activity.

12. CBTE pushes educators to broaden the decision-making base.

13. CBTE pushes educators to be accountable for what they do.

14. CBTE pushes educators to keep training programs abreast with the state of the art and responsive to societal needs through a systematic change strategy.

15. CBTE pushes educators in all of the above directions at the same time (see Figure 1).

There are those who do not support CBTE, because the basic proposition of a CBTE program is the public statement of specific objectives to be attained. McCarthy (47) lists a few objections and resistance to the CBTE concept. He says the essential arguments against CBTE are:

1. Mandating one form of teacher education is a violation of the principle of academic freedom and stultifies inquiry in an area where diversity is a virtue, not a vice.

2. Moving control over content and approach off the college campus will tend to reduce the preparation of teachers to a craft.

3. Performance measures are not presently available for what may be the more important teaching competencies. If attention is concentrated on only those behaviors, skills and the like which are easily measurable, insufficient attention may be given to more important learning activities in the cognitive and affective domains.

4. Some hazy but ill defined teacher education council, dominated by practitioners, will set policies for the training of future teachers.

5. "Effective teaching" might degenerate into the uncritical acceptance of authoritarian norms.
Some people believe that CBTE is just another development which will fade into the oblivion of educational faddism. On the other hand, some people believe that CBTE, given intelligent leadership and adequate development and research support, can generate the kinds of reform so long sought and now so urgently needed. Experiences in implementing CBTE programs, the quality of leadership provided, and the amount of support allocated to development and research will be major factors in determining whether CBTE's potential for improving educational personnel development is attained.

The Humanistic Approach to Teacher Education

The teacher works with human beings. In order to be a teacher one must have pupils and one must be capable of negotiating satisfactory relationships with them. Combs (17) says,

It is important then, that a warm, friendly, understanding, and encouraging atmosphere characterize all aspects of the exploration of methods. The atmosphere we seek involves accepting each student's self as it is, including his pre-conceived notions about teaching. Instead of rejecting these out of hand, they are taken as the place where this student begins and are accepted, considered, discussed, tried, tested, and modified by his own experiences. Each person's own beliefs about teaching serve as a point of departure.

Obviously this puts the teacher educator's role in this cycle as facilitator of these above mentioned experiences.

Combs (17) continues by stating,
Increasingly, teaching is understood not as a matter of control and direction, but of help and facilitation. Teachers are asked to be facilitators rather than controllers, helpers rather than directors. They are asked to be assisters, encouragers, enrichers, and inspirers. The concept of teachers as makers, forcers, molders, or coercers is no longer regarded as the ideal role for teachers, a position firmly buttressed by evidence from research. Such shifts in our thinking make the act of teaching a process of ministering to student growth rather than a process of control and management of student behavior.

Rogers (55) goes further and says,

If the facilitation of learning is an aim of education . . . we know . . . that the facilitation of learning rests not upon the teaching skills of the facilitator, not upon his curricular planning, not upon his use of audio-visual aids, not upon the programmed learning he utilizes, not upon his lectures and presentations, not upon an abundance of books, though each one of these might at one time or another be utilized as an important resource. No, the facilitation of significant learning rests upon certain qualities which exist in the personal relationship between facilitator and the learner.

Since teaching is a psychological relationship, "a helping relationship," it should be recognized that teaching is applied psychology. It would then seem logical that humanistic teaching should be based upon humanistic psychology. This obviously is advocated by Combs and Rogers.

Patterson (52) states that,

Teacher education is more than the teaching of subject matter, even the subject matter of a humanist psychology. It must be concerned with the development of persons with humanistic beliefs about people and attitudes toward them. It must make it possible for the student to develop an adequate self-concept. In short, it must foster the development of self-actualizing teachers.
Patterson (52) goes on to say,

If we want teachers who are capable of fostering self-actualization in their students, they must be self-actualizing persons themselves, and they can become such persons only by experiencing the conditions which are necessary for the development of self-actualizing persons.

This has been a defect or lack in our teacher preparation programs according to humanists. We cannot tell teachers how to teach humanistically ourselves. Combs (17) reinforces this when he refers to the saying among counselor educators that, "students teach like they have been taught, rather than the way we taught them to teach."

Teacher educators are models upon which teacher education students base their teaching. Unfortunately, too often they are not models of humanistic education, according to humanistic writers.

The humanistic model of teacher preparation is largely attributed to Combs and his colleagues at the University of Florida. They say in Comb's book (17) that,

Instead of limiting the prospective teacher's field experience to a practical episode which comes at the tail end, it makes more sense to make it a continuous, integral part of the entire program. In this way field experience becomes, not only an opportunity to try things already mastered, but an experience to find out what the problems are and what yet needs to be learned. This continuous, practical involvement is graduated increasingly both in terms of time spent and responsibility assumed.

The college of education at the University of Florida offers the following schematic diagram on their humanistic model (Figure 2).
Substantive Panel
Curriculum, foundations, and content experts provide:

1. General presentations or demonstrations
2. Programs for groups with common needs
3. Consultation as needed on learning activities
4. Individual counsel and aid
5. Self-directed study

Figure 2. Field-based University of Florida Schematic Diagram.
A crucial feature of this type of program is that the students should, hopefully, experience different types of teaching approaches and as Combs (17) says,

The program should also provide the opportunity for the young teacher to interact with varied types of students i.e., students from varying ethnic, cultural, urban, or rural backgrounds. The teacher to be effective, should also have the opportunity to interact with youngsters of different age levels so that a student initially convinced that he wishes to teach at a given level, may change his mind and decide he is more comfortable with youngsters of greater or lesser maturity.

In a humanistic program of teacher education, an attempt is made to develop a human teacher with many good qualities such as those identified by Innone and Carline (36):

Spontaneity, acceptance, creativity, and self-actualization . . . . This program should give the prospective teacher an opportunity to relate theory to practice, to search for greater personal understanding of himself and of the learning processes of children. It should help them develop compassion for weaknesses in individuals and sensitivity to the needs of human beings. Its most important product could be a teacher who is true to his feelings and knows how to help children realize their potential.

One can summarize these readings by saying it is hoped that the humanistic approach to teacher education will produce teachers who will halt the destruction of human potential in our schools. Davis (26) concludes by saying, "it may be that humanistic education can only exist in a humanistic society." But it might also be contended that we can only achieve a humanistic society by developing a humanistic educational system. Patterson (52) states,
We must start somewhere, and society is too large and pervasive a place. Essentially, we can only work with individuals in developing humanistic— or self-actualizing persons. It would appear that the most effective place to start is with the education of teachers.

**Career Education and Teacher Education**

Career education was introduced in the United States in its present context in 1971 by the then Commissioner of Education, Sidney P. Marland. Since then a lot of monies have been budgeted by the federal government and state governments to prepare people and educational systems for its philosophy and implications. Oregon is one state that has embraced many of those career education concepts.

The implications for teacher preparation are evident. Teacher education graduates will need to be acquainted with the many concepts of career education in order to get positions in the teaching profession.

This section is designed to show some of the implications career education may have on a teacher education program and what is going on in career education today.

Career education has been much in the news lately. It has its firm advocates and some very vocal opponents. Will career education be just another passing fancy—a new label for a change in form but not substance—that will be gone and forgotten after current advocates lose interest or power? That is the question being put forth by today's practitioners.
Burdin (13) says,

The answer in part depends on how extensively and effectively the education community is involved, on whether career education becomes its priority. Recent education history of the rise and fall of movements generated outside the educational establishment—coupled with current declines in federal funding—suggests poor odds on the success of career education.

Ottina (51) refutes this statement by saying, "despite some budgetary belt-tightening, career education is alive and well in the U.S. Office of Education and is moving ahead with accelerated vigor and vitality."

The concept is also alive and well and is a key part of the total education program in the state of Oregon. Quoting an Oregon State Department of Education publication (50):

Career education is an integral part of the total education program, and embraces the concept that each individual is called upon to perform several basic functions or roles throughout his lifetime, including (1) learner, (2) producer, (3) citizen, (4) consumer, (5) individual, and (6) family member. Oregon’s education system must provide insight, exploration, and preparation in these and other life roles continuously and at the appropriate interest and comprehension level of each learner.

The career education concept, in contrast to traditional vocational education, presents a real challenge to all teachers at a time when public education is under serious indictment for failure to establish and maintain a viable and purposeful level of interest for students of all types.
Bruner (11) concurs when he says,

Curriculum which does not give purpose about careers and vocation is not likely to provide the relevance to the student seeking to find his identity in today's society.

The implications for teacher education are obvious. Career education represents the complete self-development of students, which is a significant concept for prospective teachers who will be guiding the self-development of others.

Dull (28) states that,

Career education is a systematic way to acquaint children with the world of work in the elementary and junior high years and to prepare them in high school and college to enter and advance in a career field carefully chosen from among many.

Goldhammer (31) says, "career education will not be accepted blindly without conflict." But Cross (25) puts this into perspective when he says, "career education should not destroy our curriculum, but enhance it."

This attitude is taken by Oregon in its model of career education. This "womb to tomb" experience gets its first real push in the K-6, elementary school experience. Quoting the Oregon State Department of Education (50),

During the child's elementary years (K-6), the goal is to cultivate an awareness that people are involved in and affected by the world of work. It is not necessary to add courses or set aside times to teach. Career awareness, as the basic concepts are taught, should be related to what people do for a living and how they live. The intent is to open the student's
mind to the significance of careers in regard to his life and to society as a whole.

The model continues by saying,

Building on the awareness experience of the elementary grades, the student in the middle grades (7-10) is provided a broad career exploration program. Students are given ample opportunities to explore the knowledge, skills, technical requirements, working conditions . . . of the career fields that are of interest to them. Learning experiences are offered which are common to broad career preparation areas, as well as in-depth explorations in areas of interest to each student.

Continuing,

Following the above experiences, the student in grades 11 and 12 is provided opportunities for actual career preparation. Toward this goal, the career cluster concept was adopted in Oregon. A cluster curriculum is organized around occupations that have been grouped through occupational analysis. Within each cluster, the students learn the skills and knowledge required for the key occupations in that cluster.

Finally,

Post high school occupational education provides students with vocational skills required for successful entry into specific occupations. The role of all post secondary work comes into play here with the effective decision making process that the student has just completed for final job selection.

The very nature of the above adapted program gives far reaching implications to the institutions charged with the responsibilities of meeting the needs of their state. Hoyt et al. (34) say,

Teacher education institutions must assume responsibility for solving the need for support personnel in career education. They must join with the state department of education personnel in assisting local school systems with the massive problems of in-service that career education will bring.
Borland and Harris (8) say,

The new challenge to teacher educators, therefore, is to prepare and continually strive to keep professional teachers current so they are able to provide meaningful educational objectives for their individual teaching disciplines while simultaneously implementing relevant methodology and experiences necessary to achieve individual career education goals. Formal teacher preparation for this new challenge must be consistent with the overall approach to career education being developed nationally.

Goldhammer (32) states that,

Career education constitutes a promise to make education relevant to the lives of all children and youths. It represents an all-encompassing effort to direct educational efforts toward a meaningful involvement with the basic human problems of our society. Schools of education have unavoidable responsibility to analyze its implications, to develop the techniques and strategies which will help it become successful, to prepare the personnel who can maintain the programs and relate effectively to the career development needs of children and youth, to do the research and evaluation essential to change it from its present primitive beginnings into a totally refined instructional effort.

Borland and Harris (8) list specific objectives of a career education program that should include persons who have developed:

1. A sound knowledge and an ability to coordinate purposeful learning experiences about the world of work for youth under public charge with viable segments of human/industry, public service and family/home unit.

2. Sufficient knowledge and experience in vocational guidance and career planning, so that advice, direction, and acquisition of resources pertaining to the major occupations can be included in routine classroom activities.

3. An understanding, appreciation, and experience with typical job classifications, job entry requirements and job placement opportunities in the major occupational clusters.
The above authors continue by offering a model for professional development for career education personnel (Figure 3).

The model provides three paths for needed personnel in the implementation of career education. The certified teacher who has in-service needs and the career education specialist whose prior academic preparation, if any, was not in professional education, would complete the career education option. The pre-service prospective teacher would complete the option as a complement to his specific teacher education program. It is through this part of the model that the integration of career education objectives of teacher education programs would be accomplished.

As with the previous innovations in teacher education, career education has its critics. In order to make it go, we must be aware of the limitations of career education and avoid the death of this movement like so many others in recent years. Dull (28) lists some limitations, which may easily be overlooked by career education advocates. They are:

1. Care must be exercised to avoid work study programs as a back entrance into child labor.

2. Career education must not be used to discourage the disadvantaged in seeking admission to college.

3. Educational planners must not oversell this program as a panacea.

4. The academically-oriented community must be solicited for support in order to restructure the curriculum successfully.

5. Necessary funds that might be needed to mount a vigorous restructuring of the curriculum may be difficult to secure from the electorate.

6. It is not yet known whether business and industry will cooperate in providing sufficient opportunities for work-study programs.
Figure 3. Professional Development for Career Education Personnel.
7. The consumption market for workers must be studied carefully by educators lest we produce too many trained people for jobs available.

8. The trend of the American economy is "anti-youth" in the sense that employers prefer to hire people in their 20's rather than in their teens.

9. While career education is fostered, we must continue as always to teach boys and girls how to read, write, talk, and calculate.

Whether the pros outweigh the cons is for individual districts to decide. Career education has a philosophy and offers new alternatives. Cosand (23) agrees and says,

Career education among other things is an attempt to redirect the educational process to the fulfillment of the whole man . . . in his work, in his community, in his personal life . . . it is toward the incredible waste of human potential that the concept of career education is primarily directed. But it is also addressed to the whole continuum of education on the premise that learning is a life long proposition.

Wordeberge (61) continues by saying, "schools today are not perceived as warm, friendly places where love of one's fellowman is accepted." Nash and Agne (49) concur and go on to say, "we need new programs in teacher education to bring about these changes that will create a new perception of schools. Career education must attempt to reduce the deep estrangement people experience throughout their working lives." Keller (39) finishes by saying, "the student's attitudinal development can be greatly influenced by how the college of education views both his career education and its future role for him as a teacher."
In conclusion Cross (26) says,

No claim is made that career education is the panacea for anything. Like any other program, its success depends upon the people who implement and maintain it. Unlike many innovated programs, it should not be destroyed through the processes of interpretation for its purpose is relevant and its justification is understandable.

Whether career education becomes universally accepted remains to be seen. But, teacher education institutions will have a lot to do with its fate by whether they do or do not meet the challenge and prepare teachers for its role in the public school system.

The Field-based Approach to Teacher Education

Too often in the past we have insisted on instruction rather than education, and on that model of teaching which piles up facts, instead of that which educes or draws forth and brings out. We have expected the students to extract from a mass of unrelated materials, called a curriculum, something which he will find pertinent to the pursuit of life or a livelihood. It is this unrelated curriculum that the advocates for field-based teacher education build their foundations for their programs.

The knowledge mentioned above is important, but as Cooper and Sadker (22) say, "lately, teacher education programs have begun to move their prospective teachers into the public schools for their instruction in order to insure that their knowledge gets translated into behavior."
This movement of methods courses into the public schools is an attempt to bridge theory and practice by allowing the trainees to work with students, receive feedback or results, consult with their instructors, and make any necessary adjustments to improve their teaching. Cooper and Sadker (22) concur by saying, "Since teaching involves students, it makes good sense that one learning to teach will learn better by having regular, sustained contact with them."

Combs (18) also concurs by stating,

In order to become effective teachers, teachers-in-training need to experience subject matter, to wade around in it, to make mistakes in it, to be intensely and personally in interaction with it, till it becomes a part of their very being. They must feel they are participants in it and contributors to it.

A laboratory experience that allows the student constantly to integrate theory with practice, gain knowledge of pupils in their school and community settings, and demonstrate his growing ability to perform as a teacher is recommended by Shuff and Shuff (57).

Puricelli (54) concurs by saying,

Some purposes of this experience are to provide:

1. Opportunities for the student to test her personal commitment to teaching and to evaluate her potential as a teacher early in the professional program.

2. Live student contacts essential to development of ease and effectiveness in classroom relationships, in area schools which represent not only curricular but social and ethnic differences in our society.

3. Personal contacts with working superintendents, teachers, counselors, librarians and non-certified personnel who
are capable of demonstrating and interpreting the school in a viable setting.

4. Insight into the problems and practices of a modern school.

Another important aspect is that students should have the opportunity to observe and work with more than one teacher, and for periods of time adequate to get to feel and understand the relationships between the teacher and the students. Cooper and Sadker (22) agree and say that this exposure,

Besides helping the prospective teacher discover earlier in his career whether or not he really wants to teach, the early field experiences also enable him to approach the rest of the teacher education curriculum from a reality perspective. Having been exposed to these actual classroom teaching experiences, the trainee is much more prepared to see the relevancy in the training program and at the same time have a greater understanding of his unique needs in preparing himself to teach.

A program that is all field-based also has some inherent dangers. Cross (25) warns against this when he says,

There are dangers present in teacher education programs that depend too heavily upon field programs to equip beginning teachers to assume classroom responsibility, and such an overbalance could be disastrous. Dependence of field experience tends to inhibit change and perpetuate educational conditions as they are. The old cliche that teachers teach as they were taught rather than as they were taught to teach, has credence when education students are evaluated in terms of the similarity of their performances to the performances of their models and to the expectations of their supervisors.

Lanier and Henderson (41) also agree by stating, "the major problem with field experience is simply that field-based teaching
personnel frequently present models of and reinforcements for teaching behaviors that are not those typically recommended by university teaching personnel."

This concept is being pushed widely among the advocates of the revitalization of teacher education. But, it, like the others, has its problems. Combs (17) in talking about field-based programs states,

The first reaction on looking at this type a program is that it departs so widely from many existing procedures that one may throw up one's hands in despair at the administrative problems involved. However, whether or not such a program is administratively convenient ought not determine whether the effort is made. Acceptance or rejection of an unorthodox program should be based on more valid reasons than expediency. The critical question must be, Does it produce better teachers.

Proponents of the program seem to feel it does.

Summary

The review of literature was conducted in five areas: (1) Teacher Education, What Are the Alternatives?; (2) The Competency-Based or Performance-Based Teacher Education Program; (3) The Humanistic Approach to Teacher Education; (4) Career Education and Teacher Education; and (5) The Field-Based Approach to Teacher Education.

The most recent literature relative to teacher education supports the thesis that a change needs to be made in the way we prepare our teachers. The stage is set for what appears to be an edict to the institutions which have taken on the responsibility for the training of these teachers.
The potential impact of this transition on the preparation of teachers for future problems that will be faced is significant. Changes will have to be made that will allow the potential teacher to make realistic choices regarding his own career. In turn, he must develop skills and attitudes necessary to aid the development of the many students he will influence in his professional life.

The alternatives shown have a similar core to them in many ways. This common core will have to have a sensitivity to it that will be responsive to change, but not just change for the sake of change. It must be a creative change congruent with the goals of all involved. Without this sensitivity, the trends and innovations outlined here will represent only sporadic and limited progress toward the development of better and more relevant teacher education programs that are being advocated by so many concerned people in the field of education.
III. DESIGN OF THE STUDY

This study was an investigation of changes in attitudes in students being prepared for the teaching profession. The purpose of this study is to determine the differences in attitude changes produced or developed in two alternative programs of teacher education.

Six topics related to the design are included in this section of the report: sampling process, the instrument, collection of data, the dependent variable, statistical design, and the method of analysis.

Selection of the Population

The samples for this study were selected from sophomore block students working to obtain degrees in teacher preparation. The study utilized samples randomly selected from two field-based teacher preparatory institutions; namely, Oregon College of Education (OCE) at Monmouth, Oregon (treatment 2 for purposes of this study), and Oregon State University (OSU) at Corvallis, Oregon (treatment 1). Both of these institutions have a similar commitment to a field-based teacher education program. The sample consists a total of 191 respondents from each of the two institutions.

The OCE program won the American Association of Colleges in Teacher Education (AACTE) Distinguished Achievement Award for the year 1974. Quoting the AACTE 1974 Yearbook (3) on its award to
OCE, it describes their program as follows.

OCE has applied and adapted CBTE principles to initiate a competency based and research-oriented program to move adequately and prepare teachers for their profession. The OCE-CBTE program focused on the design, development, implementation, and evaluation of six interrelated specifications derived from the college's ComField Model Teacher Education Project. Their aim was to generate evidence that teachers can bring about appropriate learning in children under "real" teaching conditions before they assume responsibility for it in the classroom. The six interrelated specifications were competency-based, personalized, field-centered, consortium operated, systems designed and developed, and research oriented. Special emphasis was given to competency demonstration and assessment problems, program effectiveness and cost assessment, data collection, and management systems, and programmatic research. These specifications represent OCE's attempt to avoid traditional conflicts of humanism vs. behaviorism (a prevalent problem in CBTE operation) and special outcomes vs. individual differences. The conflicts were avoided by identifying the context in which these concepts could interact in ways that would produce an integrated program.

OCE's program is designed to support experimental research. It is organized so that blocks of 50 students can be systematically treated as experimental or control groups as they move through the program. This arrangement is managed by three conditions. First, each block of 50 students is viewed as an "instructional unit" within the program. Second, all faculty in the elementary divisions have accepted common definitions, measures, and performance standards for teaching competency. Finally, all faculty have agreed to systematically explore alternative instructional programs and procedures to help students achieve teaching competence and to carefully document the programs and procedures used. The OCE-CBTE program is currently serving as an exemplary model for other Oregon teacher education programs to observe, adapt, modify, and use in their own program development.

The sample from the OCE program consisted of 96 students out of approximately 130 doing field experience at that time.
The sample from the OSU program consisted of approximately 95 students out of a possible 270 registered in the Theory and Practicum II, Fall Term 1974, in the School of Education. The School of Education is one of 13 schools within the University, and serves approximately 14 percent of all undergraduate students enrolled in the University. Theory and Practicum II (TP II) is a two-term program designed primarily for sophomores, providing students with a field experience for one term on a half-day basis, five days a week and one term on a half-day basis, five days a week in an on-campus, content-oriented experience. TP II is followed by TP III for students of junior status with similar objectives to the preceding program, only in more depth, and TP IV, which is equivalent to the traditional student teaching.

Quoting from the OSU proposal submitted for consideration for the AACTE's distinguished service award, the program was described in the following manner:

As a result of the work of the School of Education's Commission on Missions, changes in undergraduate teacher education shifted from course dominated programs toward articulated, field-based programs that emphasized the development of teacher competencies. The program that has evolved is more effective in terms of generating student commitment to teaching, preparing teachers capable of dealing with the needs of individual learners, and in assuring public schools and certification agencies that our graduates have clearly demonstrated ability to perform the tasks basic to achieving instructional excellence. TP II is the introduction of the university student into the world of the learner in elementary and secondary classrooms. The student is also provided the
opportunity to work with teachers and children as an aide or tutor in the public schools for approximately three hours daily for one term (10 to 12 weeks). The intent of a field practicum is to blend academic study with the world of public school experience. Such a program recognizes the joint responsibility the university and public schools share in educating teachers.

The total program blends academic study with classroom experience in the public schools in order to effect greater transfer of learning. Experience in the real world of the learner is supported by the study of foundational theory and research related to the following areas:

- Affective, Cognitive and Psychomotor development of learners
- School as a Social System
- Instruction and Learning
- Reading
- Cultural Diversity
- Media
- Career Education
- Classroom Behavior

The OSU program described in the quotation above is further supported visually by Appendix Figures 1 and 2.

**Selection of the Instrument**

The instrument used in this study was the nationally normed Minnesota Teacher Attitude Inventory (MTAI). This instrument assesses attitudes of teachers toward pupils as one important factor in teacher personality. The inventory consists of a series of items related to attitudes of teachers toward pupil-teacher relationships.

Two studies of validity have been made in the instrument's standardization; these studies yielded coefficients of correlation of 0.46 and 0.60 between the scores on the test and the identified
Arnold (5) says, "consistent and thorough work has gone into construction and validation of this inventory. Clearly this represents a serious attempt on a very important and very difficult problem."

Authors tend to agree on its predictive validity. Leeds (42) says, "It is concluded that the MTAI does have predictive validity and would seem useful in conjunction with other predictive measures."

Brim (9) agrees with Leeds (42) and the Furman University study (42) when he reports that in using the MTAI, student means were higher with each level of progression through the undergraduate teacher education program and that students completing the program showed a much higher mean MTAI score than those entering the program.

The authors of the MTAI, Cook, Leeds and Callis (20), say,

The most direct use to which the MTAI can be put is in the selection of teachers for teaching positions. A parallel use is in counseling students about a vocational choice. These two uses stem directly from research evidence available at present. Logically, the use of the Inventory may possibly be extended to other areas, such as measuring the effectiveness of a teacher education program or measuring the ability to work with youth groups.

Collection of Data

The MTAI was used in both the pre-test and post-test evaluation. The pre-test was given to one group of each of the two treatments during the first week of Fall Term 1974. The post-test for
these two groups was administered at the end of Fall Term, 1974, when they finished their field experience at both institutions. The post-test of the unpre-tested groups of Treatment 1 and Treatment 2 was given as they finished their field experience at the end of Fall Term 1974.

One hundred ninety-one sophomore block students took the test on the OCE and OSU campuses. This represented 48 percent of the total students enrolled in the program at that time.

The Dependent Variable

The dependent variable in this study was the score assigned to the post-tests. Even though uniformity was stressed throughout this study, initial differences existed in the two institutions involved, and may have had an effect on the final measurement of the dependent variable. Covariance analysis permits the experimenter to adjust the mean scores obtained on the post-test scores to compensate for some of the sources of the differences between groups.

The MTAI consists of attitude statements which are placed on a 5-point Likert-type scale with response values ranging from strongly agree to strongly disagree, as follows (see Appendix B for a copy of the instrument): SA, If you strongly agree; A, If you agree; U, If you are undecided or uncertain; D, If you disagree; and SD, If you strongly disagree.
The Statistical Design

This study was designed to determine if significant changes in teacher attitude occurred for two alternative teacher education programs. The study utilized randomly selected respondents from two teacher preparatory institutions; namely OCE (Treatment 2) and OSU (Treatment 1).

The basic design employed in this study was the Randomized Solomon Four-group Design (15, 38). The following design procedures were utilized:

1. Pre-tested--Treatment 1
   - N=50, T₁
   - X
   - N=50, T₂

2. Pre-tested--Treatment 2
   - N=50, T₁
   - N=50, T₂

3. Unpre-tested--Treatment 1
   - N=50
   - X
   - N=50, T₂

4. Unpre-tested--Treatment 2
   - N=50
   - N=50, T₂

a. Samples for the study consisted of randomly selected personnel from OSU and OCE students in their sophomore block programs during Fall Term 1974.

b. Respondents were asked to react to each of the 150 statements on the MTAI Inventory. The responses were reported on a 5-point Likert-type scale, with response values ranging from "strongly agree" to "strongly disagree." The scale was considered to be of the interval scale type.

Method of Analysis

The subjects for the pre-test (n=50), Treatment 1 and Treatment 2, were randomly selected from students electing to take teacher
education programs at the two different institutions. The two groups were pre-tested on the dependent variable and the mean pre-test scores were established for both of the treatments.

Issac and Michael (35) say the Solomon Four-group design allows for the comparisons of differences as follows:

1D = T₁ X, M, H
2D = T₁ M, H
3D = X, M H
4D = M, H

In these formulas, D = difference between T₁ and T₂ mean scores, T = test, X = independent variable, M = maturation, and H = history.

The two pre-tested groups plus the two unpre-tested groups were given the same test, the MTAI, as a pre-test and post-test, and a mean score was computed from the dependent variable, the post-test. The difference between the tests were computed. To find the effect of X alone, 4D was subtracted from 3D. To find the effect of pre-testing alone, 4D was subtracted from 2D. The effect of the interaction of pre-testing and X was determined by adding 2D and 3D and subtracting the sum from 1D.

An analysis of covariance was computed to determine if significant differences existed between Treatment 1 and Treatment 2 means in terms of how a student makes his career choice regarding teaching and changes in his attitude toward his role in education. Hence, the
The F statistic was utilized to indicate whether there were significant differences existing among the means of the four groups.

The following hypothesis was tested through the study design:

There is no significant difference between the mean scores of the field-based programs at Oregon College of Education and Oregon State University.

The instrument (the MTAI) was used in both the pre-test and post-test assessments and, as an added dimension, the mean scores (dependent variable) of both treatments were compared to the national raw scores on the MTAI found in Cook and Hoyt's (19) research. The pre-test score was used as the covariant for the analysis.
IV. PRESENTATION OF THE FINDINGS

The analysis of the data collected for the study is presented in four sections. The first section presents the findings centering around mean score ranking of attitude changes among the study's population. The second section presents the analysis of covariance statistical technique in testing the significance of the effect of the pre-test responses to the dependent variable. The third section reports the effects of age and sex in the findings. The last section compares the means of the four groups to the nationally normed scores of the Minnesota Teacher Attitude Inventory (MTAI).

Mean Score Ranking of Attitude Changes

The mean scores were tabulated for all students in the two field-based teacher education programs that took the MTAI. The following hypothesis was tested:

There is no significant difference between the mean scores of the field-based programs at Oregon College of Education and Oregon State University.

The mean score results are shown in Table 1. The listed score was the computed mean for each individual after the positive responses were subtracted from the negative responses and then computed for the whole group. Means X are the pre-test groups from Oregon
College of Education (OCE) and Oregon State University (OSU), and means Y are the post-tested from OCE and OSU.

Table 1. Adjusted Mean Scores of the Minnesota Teacher Attitude Inventory.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>No. of Respondents</th>
<th>Mean X</th>
<th>Mean Y</th>
<th>Standard Deviation</th>
<th>Mean Score Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSU - 1</td>
<td>48</td>
<td>34.625</td>
<td>41.604</td>
<td>28.235</td>
<td>6.979</td>
</tr>
<tr>
<td>OSU - 2</td>
<td>47</td>
<td>31.680</td>
<td>26.291</td>
<td>32.781</td>
<td>-6.875</td>
</tr>
<tr>
<td>OCE - 1</td>
<td>48</td>
<td>33.166</td>
<td>26.291</td>
<td>32.781</td>
<td>-6.875</td>
</tr>
<tr>
<td>OCE - 2</td>
<td>48</td>
<td>33.229</td>
<td>33.434</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X factor is pre-test; Y factor is post-test

Analysis of Covariance

A one-way analysis of covariance was used to determine if mean differences were present for the post-test scores. The analysis of covariance utilizes the F test and makes use of both analysis of variance and regression. The present problem was involved with covariance analysis as it was used to adjust treatment means of the dependent variable for determining differences in the independent variable. For this study, the pre-test score was considered as the covariant (independent) factor and the post-test score was the dependent variable. If the computed F value generated by the analysis of covariance was greater than the tabular F value at the .05 level of significance, the results were considered significant.
If the computed F value was less than the tabular F value, the results were considered not significant.

The analysis of covariance results are shown in Table 2. The computed F value generated by the analysis of covariance was 129.772, and the tabular F value at the 0.05 level of significance with df = 1,100, was 4.05. Since the computed F value was larger than the tabular F value, the results were determined to be significant.

Table 2. Estimates of Coefficients of Covariant Analysis.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Pre-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-7.721</td>
<td>1.820</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>8.980</td>
</tr>
<tr>
<td>3</td>
<td>8.185</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.655</td>
<td>4.714</td>
</tr>
<tr>
<td>5</td>
<td>-6.119</td>
<td>9.293</td>
</tr>
<tr>
<td>Sum of squares</td>
<td>4.033</td>
<td>8.614</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>1.100</td>
<td>1.100</td>
</tr>
<tr>
<td>F values</td>
<td>12.699*</td>
<td>129.771*</td>
</tr>
</tbody>
</table>

*Significant at .05 level.

Because the hypothesis was rejected, an additional statistical test was made regarding whether all or some of the means were different from one another. Courtney and Sedgwick (33) say,

The analysis of variance test does not provide for individual mean comparisons with every other mean being considered; it only looks at the overall group of means together. Hence, further tests are needed in order to separate out those individual means which are significantly different along those which are not different.
The Least Significance Difference (LSD) test is a tool which examines the hypotheses that two means are equal. The following a priori hypotheses were set up to provide for additional testing in the event the major hypothesis was rejected:

\[
\begin{align*}
H_1 & : \mu_1 > \mu_2 \\
H_2 & : \mu_1 > \mu_3 \\
H_3 & : \mu_1 > \mu_4
\end{align*}
\]

The critical LSD value was computed (see Appendix C) and determined to be 12.234. Therefore, it was necessary for the difference between the means to be less than 12.234 in order for the hypothesis to be retained. A difference greater than 12.234 was considered to be significant at the .05 level.

For the a priori testing, mean #1, Oregon State University group 1, was selected as the comparative mean for the LSD testing. The results of the test indicated that in one of the three hypotheses, \(H_2\), there was significantly different response as compared to the other areas. The results of this analysis indicate that OSU-1 had a significantly higher adjusted mean score than did OCE-1. Additionally, no significant differences were indicated for comparisons between OSU-1 and OSU-2 and for OSU-1 and OCE-2. Table 3 shows the results of the computed LSD value test.
Table 3. Least Significant Difference Test Results.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean</th>
<th>Adjusted Mean Score</th>
<th>Difference</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H_1 )</td>
<td>41.604</td>
<td>31.680</td>
<td>9.923</td>
<td>retain</td>
</tr>
<tr>
<td>( H_2 )</td>
<td>41.604</td>
<td>26.291</td>
<td>15.312*</td>
<td>reject</td>
</tr>
<tr>
<td>( H_3 )</td>
<td>41.604</td>
<td>33.229</td>
<td>8.375</td>
<td>retain</td>
</tr>
</tbody>
</table>

Critical LSD value: 12.23411

*Significant at .05 level.

As pointed out in previous chapters, OCE and OSU have similar programs in teacher education in that the students during their early years go out into the schools for a term and receive field-based experiences. Because the two schools of education were so similar in the method of testing that was used, it was assumed that the pre-test scores, used as a covariant, were not deemed to be homogeneously different for the two groups in terms of the testing. Therefore, a test for homogeneity of regression was not made.
Effect of Age and Sex

The age and sex of each respondent were tabulated to see if they had any significant effect on the results. Table 4 shows the mean age of each of the four groups tested and the mean for the sex variable. The male was given a value of 1 and the female a value of 2. Therefore, any number below 1.500 was more male dominated; any number above 1.500 was more female dominated (which was the case in three out of the four groups).

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean Age</th>
<th>Mean Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OSU</td>
<td>22.395</td>
<td>1.437</td>
</tr>
<tr>
<td>2. OSU</td>
<td>21.063</td>
<td>1.638</td>
</tr>
<tr>
<td>3. OCE</td>
<td>21.062</td>
<td>1.729</td>
</tr>
<tr>
<td>4. OCE</td>
<td>20.125</td>
<td>1.812</td>
</tr>
</tbody>
</table>

Table 5 shows the results of the analysis of variance for the age and sex variables. The tabular F value for analysis of variance at the .05 level was found to be 3.89, with df = 1.200. The age and sex results were less than the tabular F values; therefore, the results were determined not to be significant.

The same statistic was utilized when the age and sex differences of the pre-test scores and the post-test scores were analyzed. The tabular F value in this case was 3.94, with df = 1, 100. Table 6 shows the scores which indicate that age and sex differences were not significant.
Table 5. Age and Sex Effect in Analysis of Variance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.924</td>
<td>3.579</td>
</tr>
<tr>
<td>2</td>
<td>4.423</td>
<td>3.510</td>
</tr>
<tr>
<td>3</td>
<td>1.345</td>
<td>8.160</td>
</tr>
<tr>
<td>4</td>
<td>4.462</td>
<td>4.227</td>
</tr>
<tr>
<td>5</td>
<td>-1.222</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>8.433</td>
<td></td>
</tr>
<tr>
<td>Sum of squares</td>
<td>1.711</td>
<td>1.739</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>1, 200</td>
<td>1, 200</td>
</tr>
<tr>
<td>F values</td>
<td>0.2808</td>
<td>0.2970</td>
</tr>
</tbody>
</table>

Table 6. Age and Sex Effect Shown in the Analysis of Differences between the Pre-test and Post-tests.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.008</td>
<td>2.031</td>
</tr>
<tr>
<td>2</td>
<td>7.603</td>
<td>6.928</td>
</tr>
<tr>
<td>3</td>
<td>-1.986</td>
<td>-1.899</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>2.060</td>
</tr>
<tr>
<td>5</td>
<td>3.647</td>
<td></td>
</tr>
<tr>
<td>Sum of squares</td>
<td>3.564</td>
<td>3.581</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>1, 100</td>
<td>1, 100</td>
</tr>
<tr>
<td>F values</td>
<td>0.3527</td>
<td>0.7793</td>
</tr>
</tbody>
</table>
Finally, the variables, age and sex were again tabulated with the covariance analysis to see if any significant effect was present. The tabular F value was 4.05 at the .05 level of significance. The degrees of freedom = 1, 100. Age and sex were found not to have a significant effect. Table 7 demonstrates these results.

Table 7. Age and Sex Effect with Covariant Analysis.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.008</td>
<td>2.013</td>
</tr>
<tr>
<td>2</td>
<td>7.603</td>
<td>6.928</td>
</tr>
<tr>
<td>3</td>
<td>8.013</td>
<td>8.100</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>2.060</td>
</tr>
<tr>
<td>5</td>
<td>3.647</td>
<td></td>
</tr>
<tr>
<td>Sum of squares</td>
<td>3.564</td>
<td>3.581</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>1, 100</td>
<td>1, 100</td>
</tr>
<tr>
<td>F values</td>
<td>0.352</td>
<td>0.779</td>
</tr>
</tbody>
</table>

Comparison to the Nationally Normed Minnesota Teacher Attitude Inventory Scores

The Minnesota Teacher Attitude Inventory (MTAI) has shown, through research, that it can measure consistent differences in attitudes. The authors (43) say,

These differences are present at the time education students begin professional courses and at the time they graduate with a teaching certificate, as well as experienced teacher in the field. The order of the differences is as indicated, with primary teachers high and the teachers of special fields low.
The same held true for the Oregon State University and Oregon College of Education groups. Other areas scored higher in some cases, but they also had very few respondents. Table 8 shows the means from the nationally normed group and OSU and OCE groups. The number in parentheses represents the number of respondents in the OSU and OCE results.

A copy of the MTAI can be found in Appendix B. OSU's individual scores for Groups 1 and 2, listed according to respondent number can be found in Appendix D. OCE's individual scores for Groups 3 and 4, listed according to respondent number can be found in Appendix E. In each case the student's identification number, positive responses, negative responses and adjusted score for the pre-test (two groups) and post-test scores are provided.

Summary

The analysis of the data collected was presented. The analysis of covariance statistical technique was used in testing the significance of the effect of the pre-test responses to the dependent variable. The data obtained were determined significant. A Least Significant Difference Test was computed to examine the hypothesis that the two means are equal. The test indicated that there was a significant difference between the scores of OCE and OSU. The effects of age and sex were found not to be significant. The last section compared
Table 8. OSU and OCE's Mean Scores Compared Nationally with Minnesota Teacher Attitude Inventory Scores.

<table>
<thead>
<tr>
<th>Group</th>
<th>Freshman</th>
<th>Early Childhood</th>
<th>Elementary</th>
<th>Jr. High</th>
<th>Secondary</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Academic</td>
<td>Nonacademic</td>
</tr>
<tr>
<td>National mean</td>
<td>4.8</td>
<td>65.9</td>
<td>59.5</td>
<td></td>
<td>48.3</td>
<td>44.1</td>
</tr>
<tr>
<td>OSU - 1 mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61.3</td>
<td>23.0</td>
<td>31.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(15)</td>
<td>(7)</td>
<td>(22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSU - 2 mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>44.6</td>
<td>28.9</td>
<td>25.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(11)</td>
<td>(9)</td>
<td>(25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCE - 1 mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28.6</td>
<td>26.3</td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(3)</td>
<td>(9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCE - 2 mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28.9</td>
<td>20.0</td>
<td>48.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(31)</td>
<td>(4)</td>
<td>(10)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the means of the four groups to the nationally normed scores of the MTAI and the results were determined to show that field-based programs produce different attitudes than did the nationally tested programs.
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with (1) a summary of the nature of the problem and purpose of the study, review of related literature, design of the study and findings of the study, (2) discussion of the findings, (3) implications of the study, and (4) recommendations for further study.

Nature and Purpose of the Study

The problem focused on the differences in attitude changes produced by two alternative field-based teacher education programs. Important in this problem was the exploration of what attitudes consisted of, and how alternative programs in teacher education could best provide them to potential teachers.

The major objectives of the study are summarized below.

Objective 1: Identify and describe the alternative teacher education programs from which the study population was selected.

Related literature plus personal interviews identified the programs at Oregon College of Education (OCE) and Oregon State University (OSU). Each has been recognized as innovative.

The study's population was randomly selected from students currently enrolled and participating in the field-based teacher education programs.
Objective 2: Determine attitude changes in a pre/post-test design among members of the study population.

A Randomized Solomon Four-Group design was set up to do the testing. It was chosen for its robustness, "higher prestige and represents an explicit consideration of external validity factors" (15). The design was complementary to attitudinal testing and served the study's purpose admirably. To further validate the findings, a covariant analysis was also administered. The Minnesota Teacher Attitude Inventory (MTAI) was the instrument chosen to measure the attitudinal changes. The test is a nationally normed instrument that assesses attitudes of teachers toward pupils as one important factor in teacher personality. The inventory consists of a series of items related to pupil-teacher relationships. The results obtained by the design and tests were significant and we were able to reject the hypothesis set up by the researcher.

Objective 3: Determine if field-based teacher education produces significantly different attitudes toward the teaching profession.

The two field-based programs were identified and tested by the MTAI. In the pre-test and post-test design, an analysis of variance and an analysis of covariance were tabulated on the data. The results determined that the independent variable, the field-based teacher education program, produced significant differences in attitudes.
Objective 4: Present a summary to the cooperating institutions of the conclusions and implications of the study.

Summaries of this research will be given to each institution.

Review of Related Literature

The review of literature and research related to five areas; (1) what are some of the alternatives for teacher education, (2) the competency of performance-based teacher education program, (3) the humanistic approach, (4) career education and its implications, and (5) the field-based approach to teacher education. This summary follows that order of presentation.

There was a general agreement in the literature that teacher education needed to change its traditional program and take on a more meaningful and relevant program for the individual preparing himself to teach in today's world. There was agreement that institutions and individuals were reluctant to make this change. It was pointed out that much pressure was coming from the federal government, state departments of education, school districts and teacher organizations, who are willing to take the leadership role if the universities continue to avoid the situation.

Most of the theories of teacher education are presently in their testing stages. One of the important programs found in the literature search was competency-based teacher education (CBTE). CBTE has
many strong supporters who believe that prospective teachers should be accountable for meeting the identified criteria in order to be an effective teacher. It is an answer to the demand for accountability in teacher education.

Another area identified was the humanistic model for teacher education. In a humanistic program, an attempt is made to develop a "human" teacher with many qualities. In order to understand children the teacher needs to understand himself as well. Humanists say that attention must be given to the teacher's self-knowledge, his anxieties and fears, his needs and how they might affect his relationship with students and others.

A recent important movement is career education. This is a program that has received its impetus from the federal level and recently has had a large amount of monies available for its implementation. State governments, including Oregon's, have followed suit by providing funds. It has form advocates and some very vocal opponents. It presents a real challenge to all teachers at a time when public education is under serious indictment for failure to establish and maintain a viable and purposeful level of interest for most students. There are significant implications for teacher preparatory institutions in states that are moving toward career education.

Field-based teacher education constitutes a substantial interest in today's practice. One of the important attributes of field-based
teacher education is that it encompasses many of the concepts of the previous movements. It also adds the dimension of moving the methods courses into the public schools to bridge theory and practice by allowing the trainees to work with students, receive feedback of results, consult with their instructors, and make any necessary adjustments to improve their teaching, earlier in their training. The logistics of such a program are complex and require a difficult change in philosophy by educational staffs.

Design of the Study

The sample for the study consisted of 95 students registered in the Theory and Practicum II, teacher education program in the School of Education at Oregon State University, and 96 students registered in the competency-based, field-based program at Oregon College of Education during Fall Term 1974. A total of 191 participants was included in the research.

During the first week of Fall Term 1974, a pre-test was administered to a section of field-based students in each college. The pre-test consisted of the nationally normed, 150-item attitudinal survey, the Minnesota Teacher Attitude Inventory.

Two weeks prior to the end of Fall Term, the two pre-tested groups were given the same inventory as a post-test. These scores on the MTAI constituted the dependent variable in the design.
The treatment of data explored the hypothesis of the investigation, which stated:

There is no significant difference between the mean scores of the field-based programs at Oregon College of Education and Oregon State University.

The statistical analysis chosen to provide testing for the hypothesis was the analysis of covariance. For this study, the pre-test score was considered the covariant factor and the post-test score was the dependent variable. If the computed F value generated by the analysis of covariance was less than the tabular F value at the .05 level of significance, the hypothesis was retained.

Findings of the Study

The hypothesis was rejected. There was a significant change in the mean scores of the two pre-tested and post-tested groups.

The computed F value generated by the analysis of covariance was 129.77; and the tabular F value at the .05 level of significance was 4.05. The computed F value was greater than the tabular F value and therefore, the hypothesis was rejected. The adjusted pre-test mean score for the OSU group was 34.625 and the post-test mean was 41.604, a difference of 6.979, which was significant. The OCE pre-test mean score was 33.166 and the post-test mean score was 26.291, a difference of -6.875, which was also significant. The independent
variable, field-based teacher education, was judged effective in causing the significant mean score differences to occur.

To further validate the data, a Least Significant Difference test was computed to clarify whether all or some of the means are different from one another. Significant results were obtained from this test which retained or rejected the a priori hypotheses set up. The results indicated that the mean scores for OSU's group 1 were significantly greater than the mean score for the other groups.

Variables of age and sex were also computed with the data and found to have no significant effects upon the treatment.

**Discussion of the Findings**

With the rejection of the major hypothesis, the data gathered in the investigation provided a base for involving interesting observations with forthcoming speculations.

In both treatments, the higher scoring participants were in elementary education. The constantly high mean of each group was also in the elementary education preparation. This parallels the nationally normed results on the MTAL.

The pre-tests and post-tests given to the two institutions showed a significant difference in scores. Why OCE's post-test mean dropped can only be left to speculation. The students participating in the field-based experience were out in the field the same amount of time, were
receiving a similar follow-up by the colleges and differences in their age and sex means were not significant. The only distinguishable difference was that some of the OCE students were not in "classroom" type situations in their field experiences. Several of them were in day-care centers, working with juvenile programs, and migrant programs, but it seems doubtful that this could cause such a significant drop. One positive aspect of the drop in the mean scores is that the difference was significant enough to allow the inference that field-based education does cause a change in attitudes.

It was hypothesized that age and sex could have had an important effect on the study. The results were analyzed with the analysis of variance and the analysis of covariance. All tests demonstrated that age and sex had no significant effect upon the results.

OCE's and OSU's scores were compared to the nationally normed scores. The overall means were lower than the national scores, but remained similar in that elementary programs scored higher than did students in the other areas. The question arises as to why the national norms are higher. One possible answer is that because the students tested previously were trained in traditional methods classes, they received more theory with less experiences. On the other hand, teacher education students in a field-based, experience oriented program would have more realistic attitudes toward students that would account for the differences. If this is the case, it helps account for the score drop in the OCE group.
Conclusions of the Study

The following implications are presented on the basis of information drawn from this study and from conclusions generated by other writers and researchers.

1. Students in field-based teacher education programs were found to have a significant change in attitudes toward teaching as a profession.

2. Students in field-based teacher education programs have significantly different attitudes toward the teacher/pupil relationship.

3. Field-based programs at OCE and OSU produce significantly different attitudes from each other.

4. Attitudinal testing is an ill-defined and hazy area in which to do research and to determine significant results. This area requires more research activity in the future.

5. Teacher education should continue its revamping and change if it is going to have a pertinent effect on the attitudes of its graduates.

6. Elementary education majors have consistently higher scores than the other majors of teacher preparation in our study. This is consistent with the scores on the nationally normed MTAI test.

7. Attitudes can serve as an effective input in the development of teacher education curricula. The identification of these
attitudes is necessary and will require further studies.

8. Pre-service and in-service training in attitudinal changes should become an on-going and necessary part of preparing teachers for today's society.

Recommendations for Further Study

Attitudinal testing was initiated in order to identify and bring attention to an important domain in educational research. This study dealt with education students' attitudes as they relate to education, the teaching profession, and the teacher-pupil relationship.

The following recommendations for further study are generated from information gained from the process of investigation.

1. Students' behavior is intimately involved not only in what they know, but also what they value. Therefore, to gain further information on the effectiveness of teacher education, it is recommended that further studies investigate the affective development of these students.

2. The MTAI is an attitudinal test that was developed in the 1950's. It is normed and useful, but in need of revision. A new attitudinal instrument is needed that incorporates the principles being advocated by the teacher preparation institutions using it so that it is testing its affective goals. The two treatments are field-based, therefore attitudes should be identified and measured
that meet its criteria. Such an instrument would likely produce much more significant results than did this research.

3. With the development of the above instrument, inter-institutional attitudinal testing should continue taking place. This should include the other teacher preparation institutions in the state.

4. Intra-institutional testing should be on-going in the area of attitudes and the affective domain.

5. This study should be replicated to test further the significance of the reported findings. It is suggested that, in any replication, additional efforts be made to identify the specific attitudinal factors influencing significant attitudinal changes.
BIBLIOGRAPHY


APPENDIX A

THEORY AND PRACTICUM MODELS
AFFECTIVE DEVELOPMENT OF LEARNERS

COGNITIVE DEVELOPMENT OF LEARNERS

SCHOOL AS A SOCIAL SYSTEM

INSTRUCTION AND LEARNING

READING

CULTURAL DIVERSITY

MEDIA

CAREER EDUCATION

CLASSROOM BEHAVIOR

(-elementary and secondary)

THEORY AND PRACTICUM MODEL
THEORY AND PRACTICUM

(STUDENT HOURS)

TP IV
Elementary Majors
15 hours per week Field Experience (10 weeks)
3 hours per week Seminar (10 weeks)

Secondary Majors
15 hours per week Field Experience (10 weeks)
3 hours per week Seminar (10 weeks)

TP III
Elementary Majors
8 hours per week Field Experience (10 weeks)
7 hours Seminar, Campus (10 weeks)
1 hour Reading, Campus (10 weeks)

Secondary Majors
6 hours per week Field Experience (10 weeks)
6 hours per week Special Methods and Reading (10 weeks)

TP II
15 hours per week Field Experience (10 weeks)
6 hours Academic Study (10 weeks)
10 hours Media Laboratory

INSTRUCTION AND LEARNING

CULTURAL DIVERSITY

AFFECTIVE DEVELOPMENT OF LEARNERS

CAREER EDUCATION

COGNITIVE DEVELOPMENT ON LEARNERS

CLASSROOM BEHAVIOR

SCHOOL AS A SOCIAL SYSTEM

READING

MEDIA

ALL EDUCATION MAJORS

Figure 2
APPENDIX B

MINNESOTA TEACHER ATTITUDE INVENTORY AND ANSWER SHEET
MINNESOTA TEACHER ATTITUDE INVENTORY

Form A

WALTER W. COOK
University of Minnesota

CARROLL H. LEEDS
Furman University

ROBERT CALLIS
University of Missouri

DIRECTIONS

This inventory consists of 150 statements designed to sample opinions about teacher-pupil relations. There is considerable disagreement as to what these relations should be; therefore, there are no right or wrong answers. What is wanted is your own individual feeling about the statements. Read each statement and decide how YOU feel about it. Then mark your answer on the space provided on the answer sheet. Do not make any marks on this booklet.

If you strongly agree, blacken space under "SA"

If you agree, blacken space under "A"

If you are undecided or uncertain, blacken space under "U"

If you disagree, blacken space under "D"

If you strongly disagree, blacken space under "SD"

Think in terms of the general situation rather than specific ones. There is no time limit, but work as rapidly as you can. PLEASE RESPOND TO EVERY ITEM.

The inventory contained in this booklet has been designed for use with answer forms published or authorized by The Psychological Corporation. If other answer forms are used, The Psychological Corporation takes no responsibility for the meaningfulness of scores.

Copyright 1951 by The Psychological Corporation.
All rights reserved. No part of this inventory may be reproduced in any form of printing or by any other means, electronic or mechanical, including, but not limited to, photocopying, audiovisual recording and transmission, and portrayal or duplication in any information storage and retrieval system, without permission in writing from the publisher.

Printed in U.S.A.

The Psychological Corporation, 504 East 45th Street, New York, N.Y. 10017

70-198TB
1. Most children are obedient.

2. Pupils who "act smart" probably have too high an opinion of themselves.

3. Minor disciplinary situations should sometimes be turned into jokes.

4. Shyness is preferable to boldness.

5. Teaching never gets monotonous.

6. Most pupils don't appreciate what a teacher does for them.

7. If the teacher laughs with the pupils in amusing classroom situations, the class tends to get out of control.

8. A child's companionships can be too carefully supervised.

9. A child should be encouraged to keep his likes and dislikes to himself.

10. It sometimes does a child good to be criticized in the presence of other pupils.

11. Unquestioning obedience in a child is not desirable.

12. Pupils should be required to do more studying at home.

13. The first lesson a child needs to learn is to obey the teacher without hesitation.

14. Young people are difficult to understand these days.

15. There is too great an emphasis upon "keeping order" in the classroom.

16. A pupil's failure is seldom the fault of the teacher.

17. There are times when a teacher cannot be blamed for losing patience with a pupil.

18. A teacher should never discuss sex problems with the pupils.

19. Pupils have it too easy in the modern school.

20. A teacher should not be expected to burden himself with a pupil's problems.

21. Pupils expect too much help from the teacher in getting their lessons.

22. A teacher should not be expected to sacrifice an evening of recreation in order to visit a child's home.

23. Most pupils do not make an adequate effort to prepare their lessons.

24. Too many children nowadays are allowed to have their own way.

25. Children's wants are just as important as those of an adult.

26. The teacher is usually to blame when pupils fail to follow directions.

27. A child should be taught to obey an adult without question.

28. The boastful child is usually over-confident of his ability.

29. Children have a natural tendency to be unruly.

30. A teacher cannot place much faith in the statements of pupils.

GO ON TO THE NEXT PAGE
31. Some children ask too many questions.  
32. A pupil should not be required to stand when reciting.  
33. The teacher should not be expected to manage a child if the latter’s parents are unable to do so.  
34. A teacher should never acknowledge his ignorance of a topic in the presence of his pupils.  
35. Discipline in the modern school is not as strict as it should be.  
36. Most pupils lack productive imagination.  
37. Standards of work should vary with the pupil.  
38. The majority of children take their responsibilities seriously.  
39. To maintain good discipline in the classroom a teacher needs to be “hard-boiled.”  
40. Success is more motivating than failure.  
41. Imaginative tales demand the same punishment as lying.  
42. Every pupil in the sixth grade should have sixth grade reading ability.  
43. A good motivating device is the critical comparison of a pupil’s work with that of other pupils.  
44. It is better for a child to be bashful than to be “boy or girl crazy.”  
45. Course grades should never be lowered as punishment.  
46. More “old-fashioned whippings” are needed today.  
47. The child must learn that “teacher knows best.”  
48. Increased freedom in the classroom creates confusion.  
49. A teacher should not be expected to be sympathetic toward truants.  
50. Teachers should exercise more authority over their pupils than they do.  
51. Discipline problems are the teacher’s greatest worry.  
52. The low achiever probably is not working hard enough and applying himself.  
53. There is too much emphasis on grading.  
54. Most children lack common courtesy toward adults.  
55. Aggressive children are the greatest problems.  
56. At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit.  
57. Many teachers are not severe enough in their dealings with pupils.  
58. Children “should be seen and not heard.”  
59. A teacher should always have at least a few failures.  
60. It is easier to correct discipline problems than it is to prevent them.
<table>
<thead>
<tr>
<th></th>
<th>SA—Strongly agree</th>
<th>U—Undecided or uncertain</th>
<th>D—Disagree</th>
<th>SD—Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>61.</td>
<td>Children are usually too sociable in the classroom.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62.</td>
<td>Most pupils are resourceful when left on their own.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63.</td>
<td>Too much nonsense goes on in many classrooms these days.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>The school is often to blame in cases of truancy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65.</td>
<td>Children are too carefree.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.</td>
<td>Pupils who fail to prepare their lessons daily should be kept after school to make this preparation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67.</td>
<td>Pupils who are foreigners usually make the teacher’s task more unpleasant.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68.</td>
<td>Most children would like to use good English.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69.</td>
<td>Assigning additional school work is often an effective means of punishment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70.</td>
<td>Dishonesty as found in cheating is probably one of the most serious of moral offenses.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71.</td>
<td>Children should be allowed more freedom in their execution of learning activities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72.</td>
<td>Pupils must learn to respect teachers if for no other reason than that they are teachers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73.</td>
<td>Children need not always understand the reasons for social conduct.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74.</td>
<td>Pupils usually are not qualified to select their own topics for themes and reports.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75.</td>
<td>No child should rebel against authority.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76.</td>
<td>There is too much leniency today in the handling of children.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77.</td>
<td>Difficult disciplinary problems are seldom the fault of the teacher.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78.</td>
<td>The whims and impulsive desires of children are usually worthy of attention.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>79.</td>
<td>Children usually have a hard time following instructions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80.</td>
<td>Children nowadays are allowed too much freedom in school.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81.</td>
<td>All children should start to read by the age of seven.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82.</td>
<td>Universal promotion of pupils lowers achievement standards.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83.</td>
<td>Children are unable to reason adequately.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84.</td>
<td>A teacher should not tolerate use of slang expressions by his pupils.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85.</td>
<td>The child who misbehaves should be made to feel guilty and ashamed of himself.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86.</td>
<td>If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>87.</td>
<td>Pupils should not respect teachers anymore than any other adults.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>88.</td>
<td>Throwing of chalk and erasers should always demand severe punishment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>89.</td>
<td>Teachers who are liked best probably have a better understanding of their pupils.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90.</td>
<td>Most pupils try to make things easier for the teacher.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GO ON TO THE NEXT PAGE
SA—Strongly agree  
A—Agree  
U—Undecided  
or uncertain  
D—Disagree  
SD—Strongly disagree

91. Most teachers do not give sufficient explanation in their teaching.

92. There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school.

93. Children should be given more freedom in the classroom than they usually get.

94. Most pupils are unnecessarily thoughtless relative to the teacher's wishes.

95. Children should not expect talking privileges when adults wish to speak.

96. Pupils are usually slow to "catch on" to new material.

97. Teachers are responsible for knowing the home conditions of every one of their pupils.

98. Pupils can be very boring at times.

99. Children have no business asking questions about sex.

100. Children must be told exactly what to do and how to do it.

101. Most pupils are considerate of their teachers.

102. Whispering should not be tolerated.

103. Shy pupils especially should be required to stand when reciting.

104. Teachers should consider problems of conduct more seriously than they do.

105. A teacher should never leave the class to its own management.

106. A teacher should not be expected to do more work than he is paid for.

107. There is nothing that can be more irritating than some pupils.

108. "Lack of application" is probably one of the most frequent causes for failure.

109. Young people nowadays are too frivolous.

110. As a rule teachers are too lenient with their pupils.

111. Slow pupils certainly try one's patience.

112. Grading is of value because of the competition element.

113. Pupils like to annoy the teacher.

114. Children usually will not think for themselves.

115. Classroom rules and regulations must be considered inviolable.

116. Most pupils have too easy a time of it and do not learn to do real work.

117. Children are so likeable that their shortcomings can usually be overlooked.

118. A pupil found writing obscene notes should be severely punished.

119. A teacher seldom finds children really enjoyable.

120. There is usually one best way to do school work which all pupils should follow.

GO ON TO THE NEXT PAGE
121. It isn't practicable to base school work upon children's interests.  

122. It is difficult to understand why some children want to come to school so early in the morning before opening time.

123. Children that cannot meet the school standards should be dropped.

124. Children are usually too inquisitive.

125. It is sometimes necessary to break promises made to children.

126. Children today are given too much freedom.

127. One should be able to get along with almost any child.

128. Children are not mature enough to make their own decisions.

129. A child who bites his nails needs to be shamed.

130. Children will think for themselves if permitted.

131. There is no excuse for the extreme sensitivity of some children.

132. Children just cannot be trusted.

133. Children should be given reasons for the restrictions placed upon them.

134. Most pupils are not interested in learning.

135. It is usually the uninteresting and difficult subjects that will do the pupil the most good.

136. A pupil should always be fully aware of what is expected of him.

137. There is too much intermingling of the sexes in extra-curricular activities.

138. The child who stutters should be given the opportunity to recite oftener.

139. The teacher should disregard the complaints of the child who constantly talks about imaginary illnesses.

140. Teachers probably over-emphasize the seriousness of such pupil behavior as the writing of obscene notes.

141. Teachers should not expect pupils to like them.

142. Children act more civilized than do many adults.

143. Aggressive children require the most attention.

144. Teachers can be in the wrong as well as pupils.

145. Young people today are just as good as those of the past generation.

146. Keeping discipline is not the problem that many teachers claim it to be.

147. A pupil has the right to disagree openly with his teachers.

148. Most pupil misbehavior is done to annoy the teacher.

149. One should not expect pupils to enjoy school.

150. In pupil appraisal effort should not be distinguished from scholarship.
### MINNESOTA TEACHER ATTITUDE INVENTORY

**Copyright 1951, All rights reserved as stated in the manual and catalog.**

**THE PSYCHOLOGICAL CORPORATION**

<table>
<thead>
<tr>
<th>NAME</th>
<th>LAST</th>
<th>FIRST</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLLEGE AND CLASS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCHOOL AND POSITION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>FEMALE</td>
<td>DATE</td>
</tr>
</tbody>
</table>

#### SCORE PERCENTILE

<table>
<thead>
<tr>
<th>15</th>
<th>14</th>
<th>13</th>
<th>12</th>
<th>11</th>
<th>10</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>

#### NORMS USED

- 15
- 14
- 13
- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1
APPENDIX C

COMPUTATION OF LEAST SIGNIFICANT DIFFERENCE VALUES
Least Significant Difference Test

The unequal cell formula for LSD is:

\[ \text{LSD} = t_{\alpha/2} \sqrt{ \frac{1}{n_1} + \frac{1}{n_2} } \frac{s^2}{\bar{x}} \]

\[ \text{LSD} = 1.960 \sqrt{ \frac{1/48 + 1/47}{185} } \frac{171167.36}{185} \]

\[ \text{LSD} = 1.960 \sqrt{ (0.0208333 + 0.212765) 925.22897 } \]

\[ \text{LSD} = 1.960 \sqrt{ 0.0421098 } 925.22897 \]

\[ \text{LSD} = 1.960 \sqrt{ 38.961206 } \]

\[ \text{LSD} = 1.960 (6.2418912) \]

\[ \text{LSD} = 12.23411 \]
APPENDIX D

INDIVIDUAL SCORES FOR MTAI BY RESPONDENT NUMBER
FOR OREGON STATE UNIVERSITY
<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Pre-test Positive</th>
<th>Pre-test Negative</th>
<th>Pre-test Total</th>
<th>Post-test Positive</th>
<th>Post-test Negative</th>
<th>Post-test Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>108</td>
<td>26</td>
<td>82</td>
<td>110</td>
<td>22</td>
<td>88</td>
</tr>
<tr>
<td>2</td>
<td>92</td>
<td>47</td>
<td>45</td>
<td>99</td>
<td>43</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>93</td>
<td>45</td>
<td>48</td>
<td>93</td>
<td>50</td>
<td>143</td>
</tr>
<tr>
<td>4</td>
<td>70</td>
<td>72</td>
<td>142</td>
<td>82</td>
<td>56</td>
<td>138</td>
</tr>
<tr>
<td>5</td>
<td>95</td>
<td>39</td>
<td>56</td>
<td>104</td>
<td>39</td>
<td>143</td>
</tr>
<tr>
<td>6</td>
<td>99</td>
<td>44</td>
<td>55</td>
<td>101</td>
<td>41</td>
<td>142</td>
</tr>
<tr>
<td>7</td>
<td>95</td>
<td>38</td>
<td>57</td>
<td>91</td>
<td>40</td>
<td>131</td>
</tr>
<tr>
<td>8</td>
<td>48</td>
<td>87</td>
<td>-39</td>
<td>57</td>
<td>84</td>
<td>-33</td>
</tr>
<tr>
<td>9</td>
<td>86</td>
<td>57</td>
<td>35</td>
<td>99</td>
<td>44</td>
<td>143</td>
</tr>
<tr>
<td>10</td>
<td>95</td>
<td>34</td>
<td>61</td>
<td>99</td>
<td>38</td>
<td>137</td>
</tr>
<tr>
<td>11</td>
<td>102</td>
<td>32</td>
<td>70</td>
<td>108</td>
<td>23</td>
<td>131</td>
</tr>
<tr>
<td>12</td>
<td>81</td>
<td>49</td>
<td>32</td>
<td>91</td>
<td>50</td>
<td>141</td>
</tr>
<tr>
<td>13</td>
<td>107</td>
<td>29</td>
<td>78</td>
<td>92</td>
<td>46</td>
<td>138</td>
</tr>
<tr>
<td>14</td>
<td>67</td>
<td>68</td>
<td>145</td>
<td>76</td>
<td>64</td>
<td>140</td>
</tr>
<tr>
<td>15</td>
<td>83</td>
<td>51</td>
<td>26</td>
<td>88</td>
<td>52</td>
<td>140</td>
</tr>
<tr>
<td>16</td>
<td>103</td>
<td>32</td>
<td>71</td>
<td>108</td>
<td>25</td>
<td>133</td>
</tr>
<tr>
<td>17</td>
<td>83</td>
<td>47</td>
<td>36</td>
<td>78</td>
<td>58</td>
<td>136</td>
</tr>
<tr>
<td>18</td>
<td>97</td>
<td>35</td>
<td>62</td>
<td>99</td>
<td>14</td>
<td>113</td>
</tr>
<tr>
<td>19</td>
<td>90</td>
<td>44</td>
<td>46</td>
<td>100</td>
<td>35</td>
<td>135</td>
</tr>
<tr>
<td>20</td>
<td>100</td>
<td>45</td>
<td>55</td>
<td>103</td>
<td>40</td>
<td>143</td>
</tr>
<tr>
<td>21</td>
<td>53</td>
<td>73</td>
<td>-20</td>
<td>57</td>
<td>68</td>
<td>-12</td>
</tr>
<tr>
<td>22</td>
<td>111</td>
<td>28</td>
<td>83</td>
<td>113</td>
<td>26</td>
<td>139</td>
</tr>
<tr>
<td>23</td>
<td>75</td>
<td>63</td>
<td>12</td>
<td>87</td>
<td>48</td>
<td>135</td>
</tr>
<tr>
<td>24</td>
<td>73</td>
<td>64</td>
<td>9</td>
<td>76</td>
<td>59</td>
<td>135</td>
</tr>
<tr>
<td>25</td>
<td>97</td>
<td>32</td>
<td>65</td>
<td>113</td>
<td>24</td>
<td>137</td>
</tr>
<tr>
<td>26</td>
<td>64</td>
<td>60</td>
<td>-6</td>
<td>77</td>
<td>62</td>
<td>139</td>
</tr>
<tr>
<td>27</td>
<td>75</td>
<td>51</td>
<td>24</td>
<td>89</td>
<td>43</td>
<td>132</td>
</tr>
<tr>
<td>28</td>
<td>79</td>
<td>61</td>
<td>18</td>
<td>72</td>
<td>61</td>
<td>133</td>
</tr>
<tr>
<td>29</td>
<td>65</td>
<td>71</td>
<td>-6</td>
<td>75</td>
<td>62</td>
<td>137</td>
</tr>
<tr>
<td>30</td>
<td>99</td>
<td>33</td>
<td>66</td>
<td>100</td>
<td>35</td>
<td>135</td>
</tr>
<tr>
<td>31</td>
<td>84</td>
<td>42</td>
<td>42</td>
<td>86</td>
<td>47</td>
<td>133</td>
</tr>
<tr>
<td>32</td>
<td>95</td>
<td>37</td>
<td>58</td>
<td>93</td>
<td>43</td>
<td>136</td>
</tr>
<tr>
<td>33</td>
<td>62</td>
<td>76</td>
<td>-14</td>
<td>68</td>
<td>73</td>
<td>-5</td>
</tr>
<tr>
<td>34</td>
<td>82</td>
<td>53</td>
<td>29</td>
<td>82</td>
<td>51</td>
<td>133</td>
</tr>
<tr>
<td>35</td>
<td>99</td>
<td>40</td>
<td>59</td>
<td>86</td>
<td>38</td>
<td>124</td>
</tr>
<tr>
<td>36</td>
<td>63</td>
<td>71</td>
<td>8</td>
<td>81</td>
<td>51</td>
<td>132</td>
</tr>
<tr>
<td>37</td>
<td>86</td>
<td>50</td>
<td>36</td>
<td>62</td>
<td>70</td>
<td>-8</td>
</tr>
<tr>
<td>38</td>
<td>88</td>
<td>45</td>
<td>43</td>
<td>97</td>
<td>36</td>
<td>133</td>
</tr>
<tr>
<td>39</td>
<td>84</td>
<td>55</td>
<td>29</td>
<td>93</td>
<td>47</td>
<td>140</td>
</tr>
<tr>
<td>40</td>
<td>74</td>
<td>54</td>
<td>20</td>
<td>72</td>
<td>60</td>
<td>132</td>
</tr>
</tbody>
</table>

(Continued on next page)
Appendix D. (Continued)

<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Pre-test Positive</th>
<th>Pre-test Negative</th>
<th>Pre-test Total</th>
<th>Post-test Positive</th>
<th>Post-test Negative</th>
<th>Post-test Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>75</td>
<td>57</td>
<td>18</td>
<td>84</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>42</td>
<td>87</td>
<td>52</td>
<td>35</td>
<td>98</td>
<td>41</td>
<td>57</td>
</tr>
<tr>
<td>43</td>
<td>82</td>
<td>48</td>
<td>34</td>
<td>92</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>44</td>
<td>95</td>
<td>46</td>
<td>49</td>
<td>95</td>
<td>43</td>
<td>52</td>
</tr>
<tr>
<td>45</td>
<td>77</td>
<td>59</td>
<td>18</td>
<td>79</td>
<td>59</td>
<td>20</td>
</tr>
<tr>
<td>46</td>
<td>82</td>
<td>56</td>
<td>26</td>
<td>73</td>
<td>64</td>
<td>9</td>
</tr>
<tr>
<td>47</td>
<td>77</td>
<td>60</td>
<td>17</td>
<td>69</td>
<td>50</td>
<td>19</td>
</tr>
<tr>
<td>48</td>
<td>94</td>
<td>41</td>
<td>53</td>
<td>94</td>
<td>39</td>
<td>55</td>
</tr>
</tbody>
</table>

OSU Group 2 Individual Scores for MTAI

<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Pre-test Positive</th>
<th>Pre-test Negative</th>
<th>Pre-test Total</th>
<th>Post-test Positive</th>
<th>Post-test Negative</th>
<th>Post-test Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>63</td>
<td>73</td>
<td>-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>47</td>
<td>87</td>
<td>-40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>91</td>
<td>48</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>92</td>
<td>49</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>70</td>
<td>65</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>57</td>
<td>82</td>
<td>-25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>92</td>
<td>44</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>86</td>
<td>50</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>92</td>
<td>46</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>94</td>
<td>40</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>84</td>
<td>50</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>104</td>
<td>33</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>91</td>
<td>41</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>97</td>
<td>48</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>92</td>
<td>54</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>88</td>
<td>63</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>75</td>
<td>64</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>79</td>
<td>58</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>67</td>
<td>64</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>93</td>
<td>44</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>67</td>
<td>65</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>87</td>
<td>49</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>81</td>
<td>50</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>77</td>
<td>58</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>90</td>
<td>54</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>78</td>
<td>50</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>102</td>
<td>29</td>
<td>73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>62</td>
<td>72</td>
<td>-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>113</td>
<td>31</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued on next page)
Appendix D. (Continued)

<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Pre-test Positive</th>
<th>Pre-test Negative</th>
<th>Pre-test Total</th>
<th>Post-test Positive</th>
<th>Post-test Negative</th>
<th>Post-test Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>113</td>
<td>31</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>87</td>
<td>42</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>88</td>
<td>52</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>98</td>
<td>34</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>86</td>
<td>45</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>86</td>
<td>52</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>70</td>
<td>67</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>83</td>
<td>51</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>88</td>
<td>45</td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>83</td>
<td>56</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>104</td>
<td>30</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>84</td>
<td>46</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>55</td>
<td>79</td>
<td>-24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>79</td>
<td>63</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>104</td>
<td>30</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>93</td>
<td>45</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>93</td>
<td>43</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>84</td>
<td>48</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX E

INDIVIDUAL SCORES FOR MTAI BY RESPONDENT NUMBER
FOR OREGON COLLEGE OF EDUCATION
### OCE Group 1 Individual Scores for MTAI

<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>1</td>
<td>67</td>
<td>59</td>
</tr>
<tr>
<td>2</td>
<td>84</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>73</td>
<td>59</td>
</tr>
<tr>
<td>4</td>
<td>101</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>107</td>
<td>24</td>
</tr>
<tr>
<td>6</td>
<td>84</td>
<td>54</td>
</tr>
<tr>
<td>7</td>
<td>70</td>
<td>64</td>
</tr>
<tr>
<td>8</td>
<td>105</td>
<td>24</td>
</tr>
<tr>
<td>9</td>
<td>63</td>
<td>76</td>
</tr>
<tr>
<td>10</td>
<td>87</td>
<td>38</td>
</tr>
<tr>
<td>11</td>
<td>63</td>
<td>70</td>
</tr>
<tr>
<td>12</td>
<td>88</td>
<td>48</td>
</tr>
<tr>
<td>13</td>
<td>17</td>
<td>57</td>
</tr>
<tr>
<td>14</td>
<td>74</td>
<td>53</td>
</tr>
<tr>
<td>15</td>
<td>90</td>
<td>25</td>
</tr>
<tr>
<td>16</td>
<td>107</td>
<td>31</td>
</tr>
<tr>
<td>17</td>
<td>98</td>
<td>34</td>
</tr>
<tr>
<td>18</td>
<td>86</td>
<td>50</td>
</tr>
<tr>
<td>19</td>
<td>89</td>
<td>29</td>
</tr>
<tr>
<td>20</td>
<td>74</td>
<td>62</td>
</tr>
<tr>
<td>21</td>
<td>103</td>
<td>27</td>
</tr>
<tr>
<td>22</td>
<td>92</td>
<td>48</td>
</tr>
<tr>
<td>23</td>
<td>85</td>
<td>55</td>
</tr>
<tr>
<td>24</td>
<td>81</td>
<td>51</td>
</tr>
<tr>
<td>25</td>
<td>99</td>
<td>42</td>
</tr>
<tr>
<td>26</td>
<td>105</td>
<td>37</td>
</tr>
<tr>
<td>27</td>
<td>65</td>
<td>78</td>
</tr>
<tr>
<td>28</td>
<td>82</td>
<td>51</td>
</tr>
<tr>
<td>29</td>
<td>58</td>
<td>88</td>
</tr>
<tr>
<td>30</td>
<td>73</td>
<td>61</td>
</tr>
<tr>
<td>31</td>
<td>81</td>
<td>56</td>
</tr>
<tr>
<td>32</td>
<td>82</td>
<td>53</td>
</tr>
<tr>
<td>33</td>
<td>65</td>
<td>78</td>
</tr>
<tr>
<td>34</td>
<td>84</td>
<td>48</td>
</tr>
<tr>
<td>35</td>
<td>93</td>
<td>44</td>
</tr>
<tr>
<td>36</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>37</td>
<td>101</td>
<td>34</td>
</tr>
<tr>
<td>38</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>39</td>
<td>79</td>
<td>60</td>
</tr>
<tr>
<td>40</td>
<td>86</td>
<td>46</td>
</tr>
</tbody>
</table>

(Continued on next page)
### Appendix E. (Continued)

<table>
<thead>
<tr>
<th>Respondent No.</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>41</td>
<td>50</td>
<td>82</td>
</tr>
<tr>
<td>42</td>
<td>88</td>
<td>44</td>
</tr>
<tr>
<td>43</td>
<td>87</td>
<td>47</td>
</tr>
<tr>
<td>44</td>
<td>69</td>
<td>72</td>
</tr>
<tr>
<td>45</td>
<td>98</td>
<td>30</td>
</tr>
<tr>
<td>46</td>
<td>64</td>
<td>67</td>
</tr>
<tr>
<td>47</td>
<td>102</td>
<td>40</td>
</tr>
<tr>
<td>48</td>
<td>79</td>
<td>52</td>
</tr>
</tbody>
</table>

### OCE Group 2 Individual Scores for MTAI

<table>
<thead>
<tr>
<th>No.</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>103</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>104</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>114</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>101</td>
<td>38</td>
</tr>
<tr>
<td>5</td>
<td>91</td>
<td>35</td>
</tr>
<tr>
<td>6</td>
<td>104</td>
<td>35</td>
</tr>
<tr>
<td>7</td>
<td>76</td>
<td>59</td>
</tr>
<tr>
<td>8</td>
<td>89</td>
<td>50</td>
</tr>
<tr>
<td>9</td>
<td>84</td>
<td>47</td>
</tr>
<tr>
<td>10</td>
<td>92</td>
<td>44</td>
</tr>
<tr>
<td>11</td>
<td>82</td>
<td>54</td>
</tr>
<tr>
<td>12</td>
<td>98</td>
<td>38</td>
</tr>
<tr>
<td>13</td>
<td>73</td>
<td>63</td>
</tr>
<tr>
<td>14</td>
<td>98</td>
<td>29</td>
</tr>
<tr>
<td>15</td>
<td>86</td>
<td>46</td>
</tr>
<tr>
<td>16</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>17</td>
<td>62</td>
<td>80</td>
</tr>
<tr>
<td>18</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>19</td>
<td>111</td>
<td>15</td>
</tr>
<tr>
<td>20</td>
<td>102</td>
<td>32</td>
</tr>
<tr>
<td>21</td>
<td>86</td>
<td>48</td>
</tr>
<tr>
<td>22</td>
<td>76</td>
<td>57</td>
</tr>
<tr>
<td>23</td>
<td>100</td>
<td>39</td>
</tr>
<tr>
<td>24</td>
<td>66</td>
<td>68</td>
</tr>
<tr>
<td>25</td>
<td>73</td>
<td>70</td>
</tr>
<tr>
<td>26</td>
<td>75</td>
<td>52</td>
</tr>
<tr>
<td>27</td>
<td>98</td>
<td>34</td>
</tr>
<tr>
<td>28</td>
<td>99</td>
<td>30</td>
</tr>
<tr>
<td>29</td>
<td>83</td>
<td>55</td>
</tr>
</tbody>
</table>

(Continued on next page)