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The Individualized Secondary Teacher Education Program at Brigham Young University. M-Step Monograph Number 2.

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Identifiers- Brigham Young University, M STEP, Multi State Teacher Education Project

Approximately 60 students have completed the individualized secondary teacher education program at Brigham Young University during its four-semester pilot period. Trainees are required to achieve the program's behavioral objectives which have been arranged in 11 units: administrative aspects of teaching, behavioral objectives, instructional materials and equipment, teaching methods, human development, microteaching, learning, curriculum preparation, student management, student teaching, and affective behaviors. Phase 1 is a noncoursed, integrated presentation of academic content. After being pretested, a student and a counselor (one of a team of instructors) select from the syllabus those learning activities which will help the student exhibit terminal performance specified in each objective. Each student is teamed with one or two others in his subject matter specialty, and together they write behavioral objectives and design and prepare learning activities and pre- and posttest instruments (some of these materials completely programmed) to be used when they student teach. During this period they observe in the classroom in which they will student teach as a team (Phase 2 of the program). Students do microteaching to improve needed teaching behaviors and perform interaction analysis of their own and others' teaching sessions. (Included are the behavioral objectives identified for each of the 11 units of the program.) (JS)

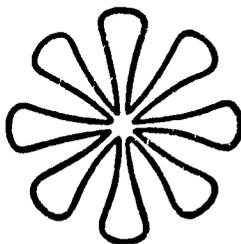
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**THE INDIVIDUALIZED
SECONDARY TEACHER EDUCATION
PROGRAM AT
BRIGHAM YOUNG UNIVERSITY**

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THE INDIVIDUALIZED
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AT BRIGHAM YOUNG UNIVERSITY

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FOREWORD

The objective of the Multi-State Teacher Education Project is "to strengthen the capacity of state departments of education to provide leadership in the development of joint responsibility between local education agencies and teacher education institutions in the preparation of professional personnel, with emphasis on laboratory experiences in elementary and secondary schools. In keeping with this objective, Utah M-STEP has sought and obtained the cooperation of the various institutions in this state in initiating activities aimed at the improvement of both pre-service and in-service teacher education programs.

Many of those closely associated with M-STEP have declared that as a prerequisite to the improvement of teacher preparation, it is first of all necessary to define rather explicitly what a teacher is expected to do in order to function effectively as a member of the profession. The experimental teacher education program described in this monograph is based on an attempt to relate professional education concepts and laboratory experiences as nearly as possible to actual teacher behaviors expected from the individual in an on-the-job situation following certification.

The program described herein has been encouraged and supported from the outset by Antone K. Romney, Dean of the College of Education and Stephen L. Alley, Chairman of the Department of Teacher Education, Brigham Young University. It has reached its present stage of development under the direction of three Professors of Teacher Education at Brigham Young University, J. Hugh Baird, W. Dwayne Belt, and Lyal E. Holder who have authored this monograph.

M-STEP is pleased to have played a part in the development of this program and in disseminating this information for the purpose of stimulating improvement in education.

VERE A. MC HENRY
Utah M-STEP Coordinator

**The Individualized Secondary Teacher Education Program
at Brigham Young University**

J. Hugh Baird
W. Dwayne Belt
Lyal Holder

Introduction

This monograph describes an experimental program for the pre-service training of secondary school teachers currently being tested at Brigham Young University.

Presently, the program provides within a one-semester structure, nineteen of the twenty-three semester credit hours of professional education required for certification. Students move through the material at their own pace in that they may complete assignments ahead of deadlines if they wish. The project is not fully individualized as yet because of the time limit imposed by its semester structure.

A major departure from conventional teacher education programs is seen in the performance orientation of the program. That is, pre-service teachers are recommended for certification on the basis of their ability to perform the behaviors that good teachers perform, rather than on their ability to endure a sequence of professional education courses.

Since the course began in the spring semester, 1966, with eleven students, we have done the following:

1. Tentatively identified those things which a secondary teacher needs to know and be able to do to begin as a certificated teacher--and translated these essentials into written behavioral objectives for the course.
2. Modified the amount and kind of student teaching experience.
 - a. Cut time in half
 - b. Assigned student teachers in teams of two or three
 - c. Substituted micro-teaching for some of the in-class student teaching time. (We have found no noticeable differences between the graduating secondary teacher who micro-taught and those who student-taught full time.)
3. Combined almost all course work (19 hours) into a unified semester of work, eliminating unnecessary course overlap and allowing inclusion of new and vital content.
4. Rewritten course content to help pupils move through the program at their own rate.

5. Tested these changes for four semesters.

Approximately sixty students have completed the program during the four-semester pilot period.

Program Rationale

In an age of education characterized by innovations, research in learning and teaching, changing roles for the teachers, and teachers demanding more voice in the educational enterprise, the professional certification program for secondary teachers is yet often based upon the taking of a series of required education courses.

A number of questions can be raised about the efficiency of the present system of training teachers. Some of these questions are:

1. Is it justifiable to assign a student teacher to a less than excellent supervising teacher simply because there are not sufficient excellent teachers available?
2. Is the assumption valid that each student teacher needs an identical clock-hour requirement of public school practice teaching?
3. Since each trainee is unique in his abilities, interests, and needs, ought we to provide more for individual differences than is possible within the present program?
4. To what extent can and should new approaches to examination of teacher performance (e.g., video tapes, classroom interaction analysis, micro-teaching) be utilized in a teacher preparation program?
5. Does taking a series of courses guarantee any degree of proficiency on the part of the teacher to perform the tasks required in our present educational system?

Answers to some of these questions are being sought by the faculty members at Brigham Young University who are engaged in the program described in this paper. This program is currently being tested with small groups of secondary trainees.

The faculty members associated with the Secondary Experimental Program at Brigham Young University are convinced that certification based on a series of courses and credits is no longer desirable. They feel that the ability to perform certain specified behaviors is a more rational basis on which to certify individuals to teach in the secondary schools. The innovations of team teaching, continuous progress education, non-graded schools, and the expanding use of technology in our schools have helped change the role of the teacher to an identifier of learning problems and a director of learning activities rather than a presenter of information. More and more teachers are being given opportunities to assume the responsibility for individualizing instruction, for counseling students, for curriculum changing and curriculum writing, instruction through diverse methods, for emphasizing the processes of inquiry and discovery, for

cooperating in planning the presentation of programs, for guiding students in the process of self-direction, and for identifying learning activities which are appropriate and effective in large group instruction, small group instruction and independent study situations.

Since teachers tend to teach as they have been taught, it is necessary that prospective teachers be trained in a program where the emphasis is on teaching and learning behavior designed to facilitate the changing practices in the public schools. This program might be a learning situation in which opportunities are provided for experiences with various media, evaluation on some other basis than facts alone, the importance of interpersonal relationships, student examination of his values related to education, faith in the ability of students to help educate themselves, and the teacher as a resource person and facilitator. Included in this program must be opportunities for the prospective teacher to assume individual responsibility for his own study and learning. This type of program would preclude the common practice of instructing all students of a given class as though they were identical in achievement and readiness for learning. Groups of students can be taught, but only individuals can learn.

During the spring semester, 1965, an experiment was conducted at Brigham Young University in a beginning methods class to determine if there was a significant difference in learning between students who complete the course in a self-paced mode and those who complete the same course in the traditional lecture discussion mode.¹ The results of this research seemed to justify moving even further into an examination of our conventional teacher education program.

In designing such a program for prospective secondary teachers, consensus on the desirability of all the practices that could be undertaken might be difficult. However, the function of helping students to learn more effectively and more efficiently would probably find rather general approval. To learn most efficiently, one must have specific goals or objectives. Teaching and instructing are processes and are not ends, goals, or objectives. Processes without ends, goals, or objectives seldom last. If, for some reason they survive, they often produce unspecified outcomes which are more the result of accident than of planning. To avoid accidental outcomes resulting from the teaching process requires prior statements of objectives or intended outcomes. The outcomes of such teaching are overt behavioral acts or behavioral products.

¹Clark Webb and Hugh Baird, "Learning Differences Resulting from Teacher and Student-Centered Teaching Methods," paper presented at American Educational Research Association Annual Meeting, February 16-18, 1967, New York. Victor Bunderson has since conducted similar research to verify these data. Victor Bunderson, "Computer-Assisted Instruction in Self-Paced Teacher Education," paper presented at the annual meeting of the American Educational Research Association, Chicago, February, 1968.

Specifying behavioral objectives for prospective secondary teachers was one of the first steps taken in preparing the experimental program. Approximately sixty were originally written. The research on effective teaching and learning provided essential teacher behaviors from which we began our list. Analysis of communication problems between teachers and parents, pupils, and administration provided additional behavior. Some of the objectives came as a result of our personal experiences as teachers and supervisors of teachers. Data about students--their similarities, differences, needs, abilities, development patterns, and styles of learning provided the basis for other objectives.

The identification of these objectives gave direction to the identification of concepts and skills which a student must have at his command in order to perform the behaviors which are specified. Once terminal behaviors and their related concepts and skills were identified and placed in sequence and priority, the entire range of curriculum was open to all of the students. Specification of behavioral objectives also provided the opportunity to preassess the prospective teacher's abilities and to determine the point at which instruction for that individual should begin.

The behavioral objectives with their accompanying skills and concepts in the Secondary Experimental Program at Brigham Young University have been determined as the basis of the changing role of the teacher and the teacher's responsibility of representing himself and the educational institution within the profession and within the community. These objectives are listed here.

Unit 1

INTRODUCTION

Unit 2

ADMINISTRATIVE ASPECTS OF TEACHING

2.10 Significant Events, Persons, Effects

The preservice teacher will discuss in writing one historically significant educational event from each of the following eight time periods including a person or group who was prominently associated with it, and the immediate and long-range effects upon the educational enterprise.

Time Periods: (1) 1635-1693, (2) 1694-1790, (3) 1791-1845, (4) 1846-1887, (5) 1888-1910, (6) 1911-1924, (7) 1925-1951, (8) 1952-present.

2.20 Common Law Precedents for Educators

When given a brief description of court cases dealing with school law, the preservice teacher will identify how the court has or most likely would decide on the case and give a one-sentence explanation of the basic principle of law involved.

Minimal performance would be identification of appropriate disposition of the cases and the principles of law involved with 80% accuracy, as judged by the instructor.

2.21 Contractual Agreements

The preservice teacher will:

1. Define annual, continuing and tenure contracts .
2. Given examples of contractual agreements, differentiate among them and after analysis state which type of contractual arrangement applies
3. State or recognize the advantages and disadvantages of each type for the teacher and the school district, and
4. State the conditions under which a teacher could be released from service under each contractual type.

2:30 Public School Finance

When given the following actual or hypothetical information:

1. A school district property evaluation at actual cash value

2. Assessed valuation or assessment ratio, and
3. School district enrolled student population, the preservice teacher will:
 - a. compute the percentage, mill levy, and dollar amount of state and local district involvement in the Utah Equalization Program
 - b. compute the dollar amount of taxes to a home-owner with property of a given cash evaluation,
 - c. state the available alternatives in terms of the implications in any changes in the given data,
 - d. state the percentage, mill levy, dollar amount and instructional implications for each of the above alternatives, and
 - e. state which alternative he would recommend to a board of education if he were their superintendent, and why, such that the decision made would best satisfy the questions, "What is best for students?"

2.40 Authority and Responsibility

The preservice teacher will:

1. Differentiate between authority and responsibility, and use appropriately in objective 2.41 and all other class work, and
2. State the two general sources of authority for each part of objective 2.41.

2.41 Educational Agencies and Officers

The preservice teacher will describe in writing the educational role of the following:

1. Citizen
2. Federal agencies
3. State board of education
4. State legislature
5. State superintendent of public instruction
6. State department of education
7. Local school district boards of education
8. Local superintendent of schools
9. Building principal
10. Teacher
11. Patron

The description shall include source of authority, delegation of authority, and assumption of responsibility. Delegation of authority and assumption of responsibility shall meet the criteria of objective 2.40.

He shall also describe the relationship of the agencies and officers to each other in fulfilling the educational mandate of the state constitution.

2.42 Line and Staff Authority

The preservice teacher will:

1. Differentiate line and staff authority as applicable to school district organizations
2. Given line and staff positions by titular designations: patron, custodian, teacher, superintendent, principal, lay advisory group to board of education, assistant superintendent for instruction, guidance counselor, student, subject matter consultants, and department chairman, prepare a line and staff diagram or select appropriate diagrams which will illustrate line and staff relationships.

2.50 Ethics for the Teacher

As a teacher in or an observer of a teaching situation, the preservice teacher will describe in writing at least eight situations which demonstrate four ethical and four unethical behaviors on the part of the teacher. The descriptions shall illustrate a different principle for each situation.

Each behavior described shall be identified as illustrative or a specific part of the NEA Code of Ethics by stating the principle (s) in writing in preparation for class discussion.

2.51 Supervision

The preservice teacher will:

1. Write a functional definition of goal-oriented supervision
2. Use the principles of goal-oriented supervision with perceived problems during the student teaching experience.

UNIT 3

BEHAVIORAL OBJECTIVES

3.10 Behavioral Objectives

The preservice teacher will:

1. Write at least nine educational objectives which are behavioral according to Mager's³ criteria; at least three of which would be classified in each of the

³ Mager, Robert F., Preparing Objectives for Programmed Instruction, Fearon Publishers, 1962.

following categories; affective, higher than lowest cognitive, and psychomotor.

- a. objectives for at least two of these categories in your major or minor fields
- b. the three objectives in the higher than lowest cognitive category in a sequence in order that one behavior leads to the next
- c. label the parts of at least three of the nine objectives according to the criteria identified by Mager.

UNIT 4

INSTRUCTIONAL MATERIALS AND EQUIPMENT

4.10 16 MM Projector

The preservice teacher will operate on autoloader and two other types of 16 mm projectors. Operate includes assembling the equipment, threading the film, adjusting the sound and visual image, rewinding the film, storing the equipment, and preparing the room. Preparing the equipment and the room should take no more than five minutes.

4.11 Film Strip Projector

The preservice teacher will operate film strip projector with or without coordinated record and/or tape. Operate includes assembling the equipment; threading the film strip; threading the tape, if used; placing the record on the record player, if appropriate; showing the film strip; rewinding materials; and preparing the room. Preparing the equipment and the room should take no longer than five minutes.

4.12 Overhead Projector

The preservice teacher will operate the overhead projector. Operate includes assembling the equipment, preparing the room, focusing, and putting equipment away. Preparing equipment and room shall take no more than two minutes.

4.13 Opaque Projector

The preservice teacher will operate the opaque projector, using both flat and three-dimensional materials. Operate includes assembling the equipment, adjusting the image, and preparing the room for projection. Preparing the equipment and the room shall take no more than two minutes.

4.14 Infrared Copier

The preservice teacher will operate an infrared copy machine. Operate includes preparing the machine for use and making a transparency as well as a spirit master reproduction.

4.15 Tape Recorder

The preservice teacher will operate the tape recorder and record a usable tape which includes sound from multiple sources. Operate includes assembling, loading the tape, adjusting sound, level and speed, rewinding and storing tape and equipment. Operate also includes play back through the speaker and through earphones. Preparation of equipment for playback shall take no longer than two minutes.

4.16 Ditto Machine

The preservice teacher will operate the ditto machine and prepare two kinds of masters: typed copy, hand-made drawings or letterings. Operate includes assembling the equipment, inserting the master, preparing ditto copies, and storing equipment. Students should be able to print five usable copies in one minute or less.

4.17 Use of Equipment and Materials

The preservice teacher will demonstrate the instructional use of the following combinations of equipment and teaching methods:

1. 16 mm projector, dramatization and pantomime
2. Filmstrip and overhead projectors, buzz and discussion groups
3. Opaque projectors, charts and bulletin boards, panels, and committees
4. Tape recorder and role playing

These demonstrations will be presented in team groups in preparation for application during student teaching. The presentation will include perception, conceptualization, and application. (See objective 8.10 before asking questions of instructor.) Presentation will be made concurrent with 5.50.

The team will write for the instructor and students:

1. One or more Mager-style objectives to be achieved during the presentation (for objectives 4.17 and 5.50),
2. Conceptual statements of the concepts the students observing the presentation are to learn. (For objectives 4.17 and 5.50). Team will also evaluate whether or not the objectives have been achieved.

The presentation shall include a two-minute brainstorming session on instructional use of this equipment in the subject matter fields represented by class members, and shall be completed in no more than 45 minutes.

UNIT 5

TEACHING METHODS

5.10 Preassessment

1. Given or having written behavioral objectives and conceptual or skill statements, the preservice teacher will write appropriate preassessment procedures which:
 - a. determine that the learner can or cannot perform the behavior of the objectives, or
 - b. that he has a working knowledge of the concepts or skills requisite to performance of the behavior of the objectives.
2. The preservice teacher will utilize preassessment procedures in teaching lesson and unit plans according to criteria presented in class lecture-discussions.

5.20 Introducing a Unit

The preservice teacher will introduce a curriculum unit so that material will be highly motivational, will indicate to the learner the terminal behavior expected of him and will indicate to the learner ways to begin the learning. To achieve the objective, the unit must contain the three elements named above, as judged by college supervisor.

5.30 Identify Reading Level

The preservice teacher will identify the reading level of each pupil in class. Reading level will be stated in terms of grade level and will be measured in terms of the specific subject area to be taught, i.e. mathematics, science, social studies, etc. Data will be presented to instructor in written form including identification of level for each pupil, and summary including mean and extremes.

5.31 Use of Reading Level

Having determined the reading levels of each pupil in the class, the preservice teacher will adjust the instruction in two of six ways listed below.

1. Rewrite materials
2. Identify multi-level materials:
 - a. printed materials
 - b. filmstrips
 - c. recordings

d. films

3. Tape record direct content of materials with guided directions or explanations of vocabulary
4. Tape record directions for reading certain content materials
5. Outline steps in application of S.Q.3.R. for lesson. Criteria are those given in the lectures-discussions

5.40 Individual Differences

The preservice teacher will prepare unit materials and conduct his instruction so as to take into account: the individual differences of pupils. Criteria will be satisfied if the following conditions are met:

1. Grades are based on a variety of measures, no more than one-half of which will require pupil's written response, and
2. Learning activities include a variety as close to the referent as possible.

5.41 Directing Quest

The team of preservice teachers will direct the individual quest of at least ten pupils in once class. The project will be planned cooperatively with each pupil and should include the topic, pupil's objective, learning experiences, time limits, and an oral or written summary of the quest project. The pupil will conduct at least part of the quest during the regular class time. Each member of the student teaching team must participate in the project.

5.50 Teaching Methods

The preservice teacher will demonstrate the instructional use of role playing, dramatization and pantomime, buzz and discussion groups, panels and committees. Demonstrations will be done by team presentations and must include the following:

1. Use of assigned equipment (See objective 4.17.)
2. Instruction in how to prepare pupils to use and benefit from the method
3. Relevant cautions regarding use of the method
4. Learning activities which will help members of the college class apply the method to their respective subject area.

Creativity, imagination and a fresh kind of presentation will not be penalized.

5.60 Inductive and Deductive Teaching

When shown a lesson plan and/or examples of teaching, the preservice teacher will be able to identify (either in writing or orally) a lesson as being either inductively or deductively arranged.

Preservice teacher will also teach one concept inductively as part of a student teaching unit. Identifying note will be made in the unit.

5.70 Tape Sequence

The preservice teacher will prepare an illustrated tape sequence which could be used to teach a specific objective in a unit.

At least three illustrations will be used in the sequence. Illustrations may be pictures, graphs, drawings, or a combination. Each illustration must contain a minimum of written information.

A magnetic tape narration will be prepared to accompany the illustrations and will include at least two sources of sound. It shall require the student to respond to the material and help him to know whether his response is correct, and why. This tape sequence may not be used to meet the requirements of objectives 5.80 or 8.60.

5.80 Study Guide

The preservice teacher will prepare a study guide worksheet to be used by students in their work with written materials or films or lecture-discussions, etc.

The guide will:

1. Cause students to ask questions of the materials,
2. Will help motivate students,
3. Will help students identify and remember important concepts contained in the materials,
4. Will provide students with review, and
5. Will provide a check for the preservice teacher to insure that study will have been done.

5.90 Non-Oral Teaching

The preservice teacher will teach a single concept without orally communicating to his class. The teacher will get all of the students actively involved, and more than half of his class shall achieve the objectives of the non-oral lesson taught. Inquiry training will not be acceptable as the major learning activity of the lesson.

UNIT 6

HUMAN DEVELOPMENT

6.10 Human Development

The preservice teacher will:

1. Given descriptions of predominant developmental characteristics (emotional, social, intellectual, and physical) in an objective test format, identify the developmental level or age level at which the characteristics are most typically found. Minimal acceptable test performance will be 70%.
2. Given abbreviated descriptions of human behavior, differentiate with 70% accuracy between typical and atypical developmental patterns and/or identify general abnormalities in growth pattern disturbance, or a simple situational reaction.
3. Upon being presented with descriptions of a variety of human behaviors often exhibited by particular age groups in a closed book essay examination:
 - a. Analyze the situation and state the factors according to human development principles, which appear to be causing or contributing to the problem.
 - b. From the factors stated in 1 above, hypothesize the major problem(s) for which there should be concern.
 - c. Propose in writing various alternatives based upon his knowledge of human development principles that a teacher and/or parent might utilize to lessen the concern of those acting to solve the problem(s).

6.20 Self Directed Study

The preservice teacher will select for further study an area of interest in the field of human development and will:

1. Define at least one behavioral objective for himself.
2. Define and set up learning activities.
3. Set up methods or procedures by which achievement of the objective(s) can be evaluated. Evaluation of achievement will be done by the student and his group with the final check by the instructor.

UNIT 7

MICRO-TEACHING

7.10 Micro-Teaching

After having observed micro-teaching demonstrations of Objectives 7.11-7.16, and been an active participant in the evaluation, the preservice teacher will micro-teach at least five times satisfying the acceptable performance level for Objectives 7.11-7.16. Two or more objectives may be combined into one performance. Before each lesson he will submit to his instructor a written plan which will include at least the following:

1. A statement identifying which objective is being satisfied.
2. One or more behavioral objectives for the lesson.
3. Statements of necessary concepts to be learned.
4. Learning and evaluation activities in sequence.

7.11 Teach a Concept

The preservice teacher will teach a single concept and evaluate whether or not it has been learned within a period of seven minutes. A critique of the presentation will be made by the class members in terms of the learning activities selected to bring the referent to the students, amount of student involvement, whether or not the concept was learned, and the voice, poise, and mannerisms of the teacher. He will summarize the suggestions made for improvement and state those he would select for implementation, and the steps he would take to implement them.

7.12 Reinforcing Student Behavior

While teaching a seven minute concept lesson, the preservice teacher will demonstrate positive ways to reinforce desirable student behavior. The demonstration will include at least four different appropriate ways of providing positive reinforcement and must involve directly a majority of the members of the micro-class.

7.13 Micro-Teach Lesson with Questions

The preservice teacher will micro-teach before the video camera a concept lesson within a period of seven minutes using almost exclusively the asking of questions.

Acceptable performance shall require:

1. The use of each of the following types of questions at least once:
 - a. cognitive memory

- b. convergent
 - c. divergent
 - d. evaluative
2. Question sequence to cause student responses to progress smoothly from one cognitive level to another, rather than jump around.
 3. Questions phrased so those being taught do not request questions to be repeated or rephrased.
 4. Response to questions being fairly well-distributed among the learners.
 5. The lesson progression to follow the lesson plan and the learning sequence.
 6. An evaluation during the seven-minute period from which the learners, teacher and evaluator can know whether the objective of the lesson has been achieved by at least 75% of the learners.

7.14 Involving - Interest

Given a class which is not interested in the lesson, the preservice teacher will interest and involve the students in a concept lesson of at least five minutes length. If necessary, the teacher will use at least five techniques to get and keep attention.

7.15 Reality Therapy

When placed in a hypothetical problem situation, the preservice teacher will demonstrate the appropriate use of Reality Therapy as he works to resolve the problem. The demonstration will use at least four of the six techniques of Reality Therapy as defined by Glasser.⁴

7.16 Inquiry

The preservice teacher will teach a concept lesson using inquiry methods. The lesson shall include the three parts of an inquiry lesson:

1. Preparation of the class.
2. Student inquiry.
3. Follow-up analysis of the inquiry process.

⁴Glasser, William, Reality Therapy, Harper and Row Publishers, 1965.

UNIT 8

LEARNING

8.10 Cognitive Learning Sequence

1. For all assigned lesson plans and curriculum units, the preservice teacher will prepare learning activities to do the following:
 - a. Focus the attention of the learners on the referent for each major concept.
 - b. Provide for conceptualization of each major concept at least above the lowest cognitive level.
 - c. Make provisions for application of each major concept by the learners.
2. Upon being given a specific teaching-learning situation, the preservice teacher will be able to differentiate between appropriate sequential teaching procedures for cognitive learning by specifically outlining during a timed, open book test, those appropriate teaching procedures to achieve the intended objective.

To be acceptable, the three steps in the learning sequence must occur in the order listed above.

8.20 Psychomotor Learning Sequence

1. For all psychomotor lesson plans prepared, and all psychomotor skills included to be taught as part of assigned curriculum units, the preservice teacher will prepare and use learning activities to do the following:
 - a. Help the learner "preview" the psychomotor activities.
 - b. Provide for exploratory effort and guided practice until the learner performs the act correctly.
 - c. Provide for repetitive practice sessions which are appropriate in terms of deviation and frequency.
 - d. Provide for "transfer" of the psychomotor activities to other subsequent behaviors.
2. Upon being given a specific teaching-learning situation, the preservice teacher will be able to differentiate between appropriate sequential teaching procedures for psychomotor skills by specifically outlining during a timed, open book test, those appropriate teaching procedures to achieve the intended objective.

To be acceptable, the four steps in the learning sequence must occur in the order listed above.

8.30 Learning Styles

The pre-service teacher will individualize the instruction for which he is responsible in student teaching to accommodate the possible differences in learning styles of (at least one of) his students, by preparing special materials or using special teaching methods as appropriate to the needs of the students.

8.40 Transfer and Retention of Learning

Given a variety of teaching method alternatives for concepts, skills, attitudes, facts, etc., in an objective test situation, the preservice teacher will identify those methods leading to greater transfer and retention and identify or state the underlying theoretical basis for his choice. Minimal test performance is 70%.

8.50 Learning Symbols

The preservice teacher will write learning activities for all lesson and unit plans so that symbols unfamiliar to the learner are not taught until the referent of the symbol has been perceived.

8.60 Process of Learning

The student will differentiate between teaching procedures which would facilitate learning based upon insight and understanding (as described under Gestalt psychology) and learning based upon rote or mechanical responses (as described under operant conditioning) as follows:

1. When given a typical classroom learning situation on an essay test, outline the precise steps by which a teacher would proceed to promote each type of learning, and
2. Plan and conduct conditioning of a desired behavior in the classroom setting.

8.70 Programmed Material

Having written a behavioral objective, the preservice teacher will prepare programmed material for teaching at least one concept requisite to performance of the objective such that the student can use the materials entirely independent of the teacher.

UNIT 9

CURRICULUM PREPARATION

9.10 Curriculum Preparation

The preservice teacher will be responsible for team planning, writing, and teaching of one or more units of a selected course of study to be taught during student teaching.

Included in the unit(s) for which he has this responsibility will be the following:

- 9.11 A graphed course layout. (See objective 9.20)
- 9.12 Terminal objectives written for the topics and skills covered in the unit according to Mager. (See objective 3.10)
- 9.13 A sequential list of concepts and skills for which a working knowledge is needed if students are to obtain the terminal objectives. (See objectives 9.40 and 9.41)
- 9.14 A preassessment test to determine the points at which students, individually or as a group, enter the instructional sequence. (See objective 5.10)
- 9.15 Learning activities some of which:
 - 9.1511 Introduce the unit. (See objective 5.20)
 - 9.1512 Gain the attention and interest of the learner.
 - 9.1513 Are appropriate for the cognitive and psychomotor learning sequences. (See objectives 8.10 and 8.20)
 - 9.1514 Provide for individual differences. (See objectives 5.30, 5.31, 5.40, 5.41)
 - 9.1515 Require students to perform above the lowest cognitive level in at least two learning and two evaluation activities.
 - 9.1516 Are presented in an inductive manner. (See objective 5.60)
 - 9.1517 Include student inquiry training and use of inquiry. (See objective 7.16)
 - 9.1518 Include a segment of content which is completely programmed. (See objective 8.70)
 - 9.1519 Are presented non-orally. (See objective 5.90)
 - 9.1520 Are presented with an illustrated tape. (See objective 5.70)
 - 9.1521 Involve study guides for learning a concept or skill in which students need such guidance through the learning activities. (See objective 5.80)
 - 9.1522 Are presented with a bulletin board. (See objective 9.50)
 - 9.1523 Include two of the following:
 - 1. Role playing

2. Dramatization or pantomime
3. Buzz or discussion groups
4. Panels and committees
5. Activity which gets students out of the classroom to obtain relevant information

9.16 A written record of assignments given.

9.17 Evaluative procedures both norm and criterion referenced which will determine whether or not objectives have been achieved by the students and which provide for individual differences.

9.18 An analysis of the effectiveness of the unit(s) to include the following:

9.1811 Pupil evaluation of the unit. (See objective 9.80)

9.1812 Preservice teacher's evaluation of the unit including recommended revision of the content and learning activities.

When submitted, units shall contain a table of contents or index identifying where the behavior of this objective can be found.

9.20 Course Layout

The student teaching team will prepare a yearly course layout for each class they are assigned to teach during the student teaching assignment. To be acceptable, layout will be prepared in graphed form and will show both sequence of topics and approximate times to be allocated to each topic. The unit for which each member of the team will be responsible as stated in objective 9.10 shall be identified.

9.30 Resource File

The preservice teacher will compile a resource file with appropriate indexing or subject headings for at least one subject commonly taught in public secondary schools.

File will contain a variety of materials properly classified into at least ten major categories and appropriate subcategories, unless fewer would be appropriate, as judged by supervisor approval.

9.40 Objective Analysis - Cognitive

The preservice teacher will:

1. Having written cognitive behavioral objectives, at least one of which calls for

behavior above the lowest cognitive level, analyze them and prepare a list of conceptual statements of what the student must know to achieve the stated objectives. These concepts are to be arranged in a sequence to facilitate learning.

9.41 Objective Analysis - Psychomotor

If psychomotor objectives are appropriate for your unit, you will analyze them and:

1. Write skills statements of what the student must be able to perform to achieve the stated objectives, and
2. Write the skill statements into a sequence from initiatory to total performance.

9.50 Bulletin Board

The preservice teacher will assume major responsibility for preparation of a bulletin board in the public school in which he performs his student teaching. The bulletin board will do at least one of the following:

1. Introduce a unit.
2. Culminate a unit.
3. Provide learning activity type information.
4. Present general cultural information pertaining to content area.

The board shall adhere to the principles of balance, unity, line, and other criteria identified in the learning activities.

9.60 Statistics

Given:

1. The number of students who took an examination
2. Number of test items, and
3. The correct and incorrect items for each student the preservice teacher will:
 1. Compute the standard deviation, and
 2. Standard error of measurement of the data
 3. Label all computations so the evaluator can easily follow the process, and

4. Be an active contributor to a lecture-discussion of the relationship of these statistics to norm and criteria referenced evaluation as judged by the instructor(s).

9.70 Test Construction and Analysis

The preservice teacher will:

1. Construct a test instrument which contains at least three examples of each type of test question and which specifically measures achievement of terminal behavior specified in a unit for which he has major responsibility, such that at least 10% of the items call for student response above the lowest cognitive level.
2. Identify the cognitive level of performance for each item, i.e. lowest cognitive or higher than the lowest cognitive level.
3. Prepare a chart as evidence that the items used in the test are a representative sampling of the concepts embraced in the objective(s) and describe how the chart analysis could be used for diagnostic purposes in pre and post-test situations.

9.80 Pupil Evaluation

Each team of preservice teachers will evaluate the units used during student teaching by conducting oral discussions with groups of not more than 15 of their public school students at a time. The sessions shall provide feedback for at least one unit for which each team member has major responsibility. They shall make provision for one session at the conclusion of the first unit and one relatively close to the end of the student teaching assignment. Students will evaluate objectives and learning activities of the units. Where feasible and desirable, student suggestions will be incorporated into subsequent instruction. The preservice teacher's evaluation shall be made orally to his supervisor.

UNIT 10

STUDENT MANAGEMENT

10.10 Reality Therapy

The preservice teacher will demonstrate, during student teaching, the effective use of Reality Therapy by doing the following:

1. Prepare a case study on a problem student enrolled in one of the teacher's classes. Case will include basic information about the student and a brief description of what he does in and out of class.

- a. Add taped or written dialogue to the case study which describes at least three ways he has attempted to show his student that he cares and that the student is of worth.
 - b. Add taped or written dialogue to the case study which describes at least three attempts to get the student to admit his behavior and identify the consequences of this behavior.
 - c. Add taped or written dialogue to the case study which describes at least two attempts to show the student that only he can change his situation.
 - d. Add taped or written dialogue to the case study which describes his attempt to help the student identify his present behavior pattern and relate it to his short and long-range goals, and establish a plan or course of action to reach his goals.
2. Describe in writing at least two attempts to expand the principles of Reality Therapy to a large group of students.

The criteria upon which performance of objectives one and two above will be evaluated are:

1. A brief account of the situation.
2. Specific examples of what was done.
3. The reaction of the student.
4. An analysis of the effect of the teacher's behavior.
5. What the teacher yet plans to do about the problem.

10.20 Discipline Interaction

The preservice teacher will listen to a taped classroom situation involving a discipline problem and after analysis write a dialogue demonstrating alternative teacher behavior which is less of a personal affront and thus more behavior oriented, "supportive" rather than "rejectory," and "non-threatening" as identified by Amidon and Hunter.⁵

⁵Amidon, Edmund and Hunter, Elizabeth, Improving Teaching, Holt, Rinehart and Winston, 1967.

UNIT 11

STUDENT TEACHING

11.10 Student Teaching Performance

As a preservice teacher in the public schools, the university student will do the following:

1. Behave as though he were under contract to the district with respect to punctuality, dependability, and regular attendance.
2. Teach his assigned classes for the periods of time specified in his assignment.

11.11 Team Teaching

The preservice teacher will work as a member of a team which will include two or three preservice teachers, the public school cooperating teacher, and the university supervisor. Work will begin near the beginning of the semester and will continue through the student teaching assignment. Team effort will contribute to the individual achievement of objectives 11.10 through 11.40 and 9.10 through 9.1812.

11.20 Class Orientation

The preservice teacher will prepare and present an orientation to his students which will communicate his intent regarding each of the following:

1. Format and materials for recording written assignments.
2. Course, content and behavioral objectives.
3. Types of learning activities to be used for student involvement.
4. Types of materials and resources to be drawn upon for the learning activities.
5. Evaluative procedures to be used.
6. The grading system to be followed.

Effectiveness of presentation is to be judged by team members and also by students during pupil evaluation sessions.

11.30 Public Relations

During the student teaching assignment, the pre-service teacher will work to insure better relations between the personnel of the school in which he teaches and the students, parents and other members of the community. The preservice teacher will make at least

one deliberate attempt to improve public relations and will demonstrate wisdom in preserving the good relations which now exist, as judged by the cooperating teacher.

11.40 Interaction Analysis

The preservice teacher will prepare a written analysis of at least two fifteen minute sessions in which he is the teacher using the VICS Verbal Interaction System⁶ to include:

1. Tally sheets properly completed.
2. Analysis properly made from tally sheets.
3. Comparison of the two sessions contrasting major verbal interaction patterns.
4. Suggestions, where appropriate, on how he could better provide for verbal involvement by students.

11.41 Pupil-Pupil Interaction

The preservice teacher will teach a concept lesson in the public school classroom during which at least 25% of the verbal interaction falls in the VICS areas O or S.

11.50 Placement File

The preservice teacher will prepare and submit a credentials file to the placement center and make application for certification. He will prepare the file on his own and it will be submitted prior to the end of the student teaching experience. The file must conform to the criteria established by the Placement Office; the certification application to the criteria of the Teacher Clearance Office.

⁶ Ibid.

Once the curriculum has been specified the student then can progress toward certification at his own rate. He is not dependent upon a series of courses and his rate is not determined by his fellow students. Progression through a specified program at his own rate provides the preservice teacher with a better model of teaching behaviors needed in our educational system than the present conventional program. The student is allowed to progress as far and as fast as his capability and initiative will allow by using prepared curriculum materials to guide his independent study. A prospective teacher also sees the possibility of using such procedures in his own classes when he begins to teach.

As a student proceeds through the program at his own rate, the performance criteria which have been identified in the behavioral objectives give quality control to the program. Those pursuing such a program can perform certain specified behaviors with at least a minimal level of performance or they are not recommended for certification. Provision is also made for the student to perform at any level above the minimum commensurate with his initiative and ability.

With such a program, the student no longer spends a specified time in a program working toward certification. No longer is certification based upon a certain number of course hours but upon the ability of the prospective teacher to perform the behaviors identified in the program.

Purposeful instruction requires knowing not only what the goal is, but also what is required to get there and how to tell whether or not one has gotten there. Continuous Progress Instruction provides for student learning best when the following are most clearly stated:

1. The goals or objectives for instruction, stated as terminal student behavior.
2. What a student needs to know or learn to achieve the objective(s), in the form of conceptual and skill statements.
3. Preassessment procedures to determine where the student enters the program.
4. The processes for achieving the objective(s) in the form of learning activities.
5. Evaluative procedures.

The following example illustrates these five elements, as the student would see them for one objective.

3.10 Behavioral Objectives

The preservice teacher will:

1. Write at least nine educational objectives which are behavioral according to Mager's criteria; at least three of which would be classified in each of the

following categories: affective, higher than lowest cognitive and psychomotor.

- a. Objectives for at least two of these categories are to be written in the student's major or minor fields.
- b. The three objectives in the higher than lowest cognitive category will be written in a sequence so that one behavior leads to the next.
- c. The parts of at least three of the nine objectives will be labeled according to the criteria identified by Mager.

Conceptual Statements

- I. A behavioral objective states the learning goal as intended outcomes: overt terminal student behavior or a behavioral product.
 - A. Overt behavior is observable behavior.
 - B. A behavioral product is an observable product resulting from student behavior, e.g., a picture, a dress, a play script, and any other written material, etc.
- II. Mager establishes three criteria for an instructionally useable objective.
 - A. It should state the intended outcome in terms of terminal student behavior.
 - B. It should state the important conditions under which the student will be expected to exhibit the behavior, and
 - C. It should state at least the minimal or the acceptable criteria of performance.
- III. Behavioral objectives are of three types: affective, psychomotor, and cognitive.
 - A. Affective behavior involves changes in attitudes, interests, values, and the development of appreciations and adequate adjustment.
 - B. Psychomotor behavior involves neuro-muscular or motor skills.
 - C. Cognitive behavior involves recall or recognition of knowledge and the development of intellectual abilities and skills.
 - D. The cognitive behaviors are taxonomically classifiable, i.e., they describe behavioral change from simple to complex with each succeeding behavior including the preceding, simpler behaviors.
 1. Knowledge--involves the recall of specifics and universals, methods and processes, patterns, structures or settings from appropriate signals or cues.

2. Comprehension--involves the use of the materials or ideas of a communication, regardless of the symbolic form of presentation, in terms of the literal meaning, i.e., the receiver can demonstrate the use of an abstraction, for example.
3. Application--the selection and use of an appropriate abstraction (concept, generalization, or principle) without having to be prompted as to which is correct or having to be shown how to use it in a given situation.
4. Analysis--emphasizes the breakdown of a communication into its constituent parts detecting the relationship of the parts, the way they are organized, and even the techniques and devices used to convey the meaning or to establish the conclusion of a communication.
5. Synthesis--the putting together of elements and pairs so as to form a more complete (than in comprehension, application and analysis) whole not clearly there before.
6. Evaluation--the making of judgments for some purpose using criteria or standards for appraising the extent to which particulars are accurate, effective, economical, or satisfying.

Preassessment

If you feel you can perform the behavior called for in the objective above, see the graduate assistant for preassessment instrument.

Learning Activities

1. View at least once the filmstrip-tape presentations, "Educational Objectives," and "Selecting Appropriate Educational Objectives" using pretest, involvement worksheets, and post-tests when applicable.
2. Study Mager's Preparing Instructional Objectives.
3. Study the written reserve materials, "Types of Objectives" and "Student Examples of Behavioral Objectives and Related Conceptual Statements."
4. Study the audio tape "Types of Objectives and Their Classification." A workbook and an involvement sheet are on reserve which are to be used with this tape.
5. Take written examination, "Behavioral Objectives," if you wish to have this learning activity. The examination requires you to differentiate among statements as to whether they are:
 - a. Behavioral or non-behavioral according to criteria established by Mager.

- b. Behavioral objectives primarily affective, psychomotor, or cognitive in nature.
 - c. Objectives calling for behavior at the lowest cognitive level, or at a level above the lowest.
6. Write behavioral objectives to satisfy the objective above and evaluate them with your team.

Evaluation

- 1. Submit written examples of the objective above.
- 2. Use appropriate written objectives for all teaching plans.

UNIT 12

AFFECTIVE BEHAVIORS

While students are learning to perform cognitive and psychomotor tasks, they are also developing affective behaviors, i.e., attitudes, feelings, preferences, values, etc. Instructional objectives should include specification of desirable student affective behaviors.

Most affective objectives are not given to students but are a guide to the teacher for planning and evaluating student growth. This better insures that students will have made desirable changes in their affective behavior without prescriptive coercion. The following objectives are representative examples:

12.10 Teacher Role Perception

Upon completion of the program a majority of the students will have changed their perception of the role of the secondary teacher. End of course perception will have moved toward the right, assuming a continuum of role perception moving from the left end where the teacher is seen as an "authoritarian teller" to the right end where the teacher is seen as a non-directive resource person.

Role perception will be measured with pre and post instruments and observations.

12.20 Written Plans

Upon completion of the Secondary Experimental Program, the preservice teacher will demonstrate his preference for the use of written plans by thoroughly writing out the majority of the curriculum units used during his first year of teaching. These units would include behavioral objectives, concepts and skills, preassessment procedures, learning activities, and evaluation procedures for each unit of instruction.

12.30 Individualized Instruction

Upon completion of the Secondary Experimental Program, the preservice teacher will demonstrate his preference for individualized instruction by doing at least one of the following in his first year of teaching:

1. Use at least 10 techniques to provide for individual differences.
2. Design at least three units to allow students to proceed at their best pace.
3. Allow students in at least one class to pursue areas of their own interest for one-fourth of the year's work.

12.40 Evaluative Criteria

Upon completion of the Secondary Experimental Program, the preservice teacher will demonstrate his preference for criterion referenced evaluation by basing the evaluation of student achievement on these procedures at least 75% of the time during his first year of teaching.

12.50 Team Teaching

Upon the completion of the Secondary Experimental Program, the preservice teacher will demonstrate his preference for team teaching by seeking employment in a team teaching school. The instigation and/or expansion of team teaching activities in his first year of teaching would also be evidence of this preference.

ORGANIZATION FOR INSTRUCTION

The second step, which proceeded concurrently with the identification of behavioral objectives, was the organizing of learning experiences both varied and comprehensive enough to help prospective secondary school teachers attain the objectives. Just as persons from different institutions would undoubtedly create differing lists of behavioral objectives for a teacher training program, so might the means to accomplish objectives differ widely from one institution to another. The experimental certification program at Brigham Young University is one attempt to accomplish a given set of objectives. The program consists of two sequential phases. Phase I, Academic Preparation, consists of instructional activities designed to develop in the trainee capabilities necessary for effective performance in curriculum planning and teaching. Phase II, Student Teaching, provides opportunity for the trainee to use the instructional materials prepared in Phase I in an actual classroom situation.

Phase I Academic Preparation

Phase I is a non-coursed, integrated presentation of academic content presently lasting one semester. (See Figure 1). Eventually, semester bounds will disappear and students will be allowed to progress at their own individual rates through the program

PHASE I

**Academic Teacher Education
and Curriculum Preparation
(One or more semesters)**

PHASE II

Curriculum Preparation Cont'd

**Team Student Teaching
(Block, semester, or full year)**

Figure 1

whether it takes one semester or more--hence the term continuous progress. Instead of requiring trainees to complete a given number of semester hours of class work, they are required to achieve the behavioral objectives of the program. These behaviors are arranged into eleven units. (See Figure 2). No formal classes are held. Figure 3 shows how a student might achieve an objective. At the beginning of each unit, the student is given a syllabus containing the behavioral objectives for the unit and, for some objectives, a pretest designed to assess his mastery of prerequisite behaviors, as well as the degree to which he can already exhibit the performance specified for the objective. Following the pretest or upon receiving the unit where pretests are not applicable or are not yet available, the student counsels with one of a team of instructors assigned to the program and together they select from the syllabus those learning activities which will help the student exhibit terminal performance. If the pretest shows that the student can already demonstrate the terminal behaviors, he will be allowed to omit it and concentrate on those he cannot demonstrate.

Students work through suggested learning activities individually or in small groups. The learning activities for a given objective are those which most effectively promote the specified behavior of the objective and are therefore appropriately diverse. For example, learning activities include observations in elementary, secondary, and special education classrooms. Single-concept lessons are micro-taught both with and without video tape recording playback. Interaction analysis of the student's own and other teachers' classroom behavior is required. The use of a Remote Information Retrieval System allows our trainees to hear recorded audio tapes with or without accompanying visual materials. Straight-text and programmed reading materials are assigned and lectures are scheduled when necessary.

When the student finishes the required learning activities for a given objective, he is given a test designed to assess his attainment of the objective. These tests include a wide variety of activities and formats as required by the objective, and are not limited to paper-and-pencil devices. If the student's performance is satisfactory, he moves to the next objective. If his performance is not satisfactory, he meets with one of the faculty members to identify additional learning experiences. A trainee may not certify until he accomplishes all objectives according to the established criteria.

While mastering the objectives which are necessary for effective instruction, the trainee is teamed with one or two other students in his subject matter specialty, and together they prepare curriculum materials to be used when they student teach. (See Figure 1). Their overall objective here is to prepare materials which will allow them to individualize instruction. They write behavioral objectives, design and prepare learning activities, and pre and post-test instruments. Some of the materials are completely programmed. During the preparation of curriculum materials, observations are made in the classroom in which the team will student teach and materials are pre-tested with secondary students.

Phase II Student Teaching

In phase two (see Figure 1) trainees are assigned as a team to a cooperating teacher

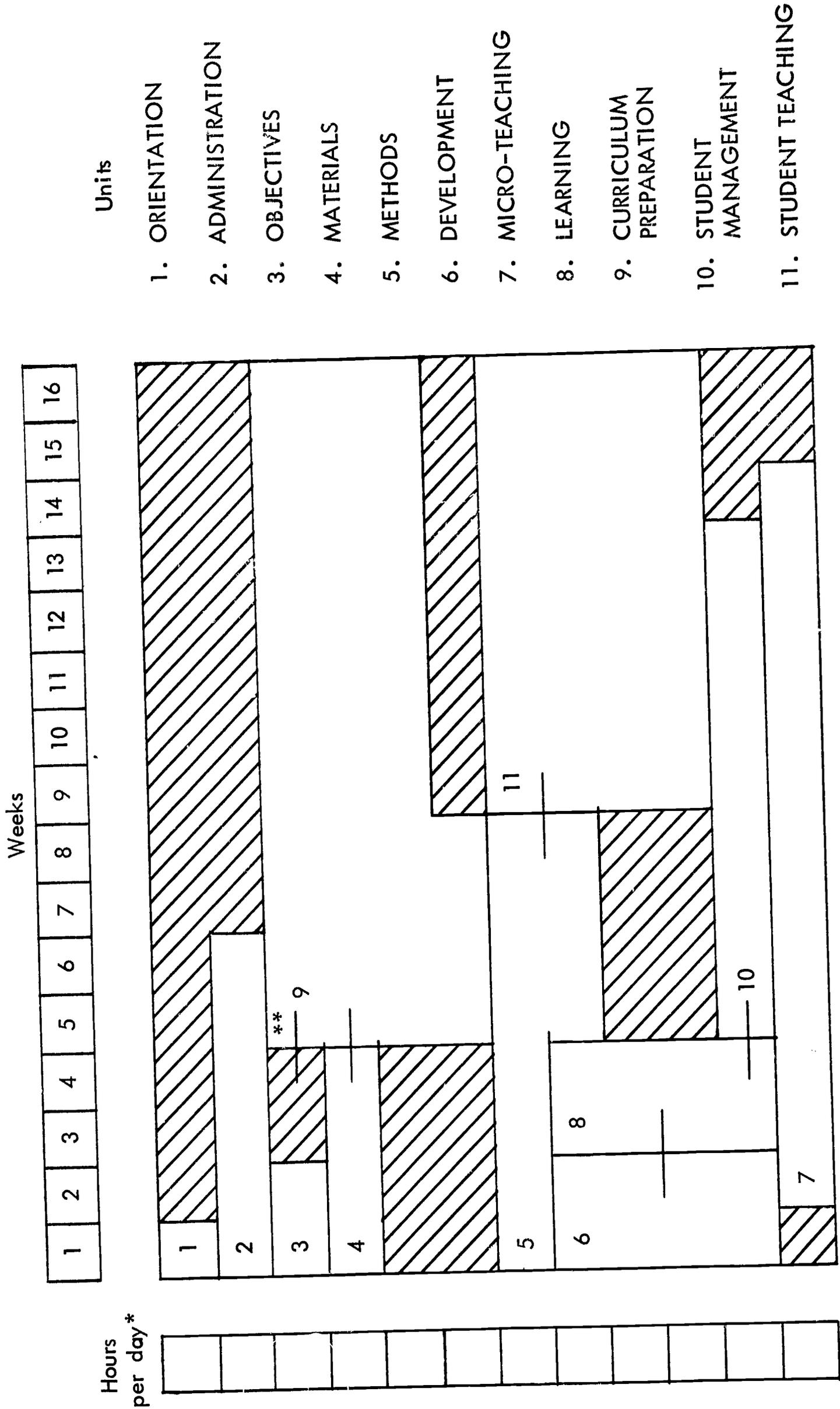


Figure 2 COURSE LAYOUT

*This is intended to indicate the proportionate amount of time required for the various units; e.g., during the first week a student might spend an hour per day on units one through five and four hours per day on unit six.

**Arrows are used to indicate the prerequisite nature of some units.

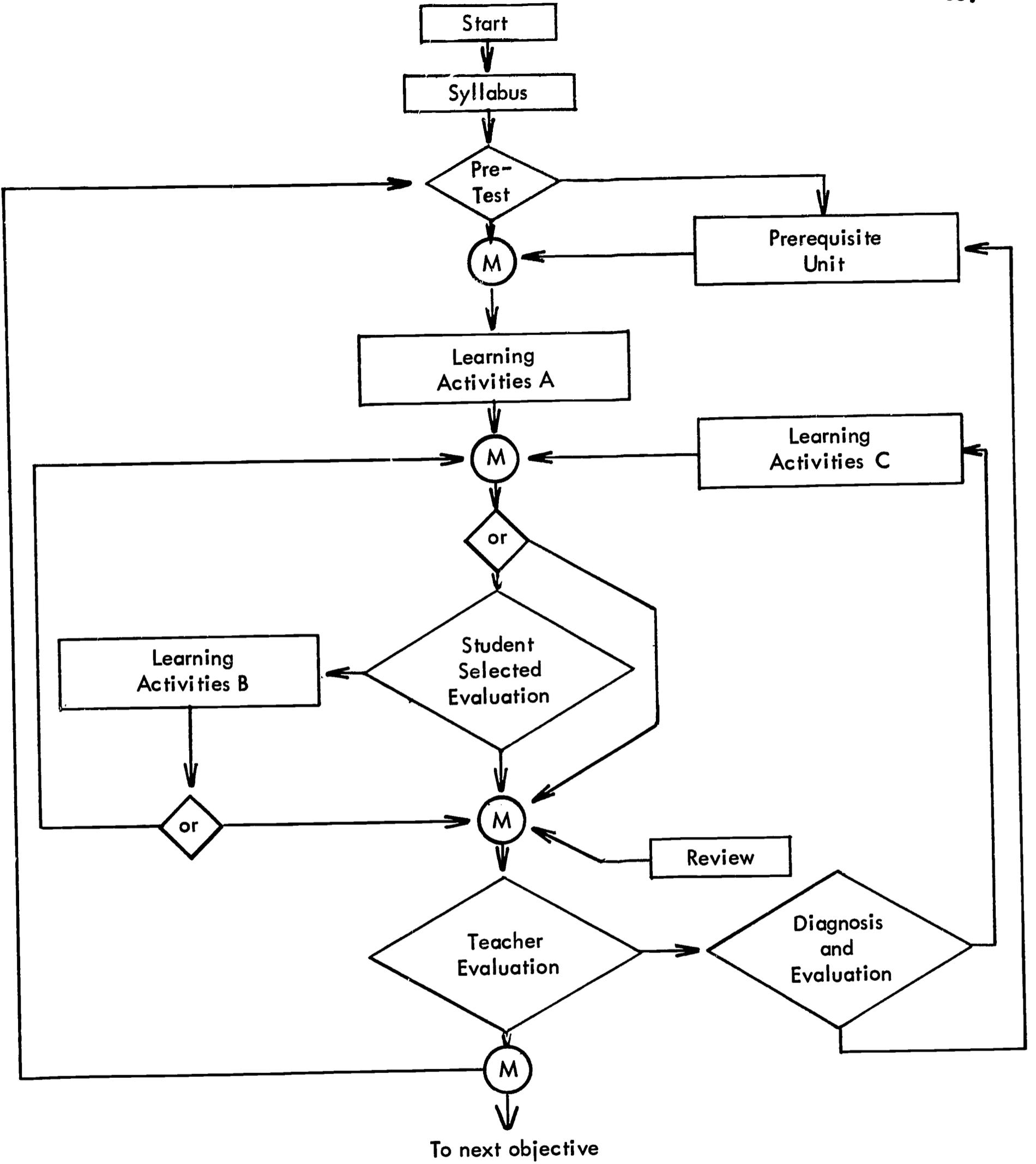


Figure 3

in the public schools for the student teaching experience. Our students presently spend one-half day for eight weeks. We anticipate a future arrangement where both the kind and duration of student teaching assignment could be individualized with alternatives such as full or part year internships, teaching in multiple kinds of classrooms in either rural or urban schools.

Curriculum materials used in student teaching are those previously prepared by the team. The same college instructors who supervised Phase I supervise the student teaching experience. Students continue to prepare and revise curriculum materials as they use them in the classroom. Students also micro-teach before video-recorders to improve needed teaching behaviors.

In summary, the experimental program at B.Y.U. has been in operation for four semesters, during which time we have trained more than sixty secondary teachers. Approximately one-half are presently teaching in the public schools, the other half (not drop outs) are continuing graduate work. We have not yet collected follow-up data on our graduates except through interview with them and their employers. As a result of these data and observations we have made, the following strengths of the program seem apparent to us.

The main advantage this program has over others, as we perceive it, is in that it has forced us to practice what we have been teaching. It has forced us to individualize our instructions; to analyze, using the tools available, our teacher-pupil interaction and to do something about it; to concern ourselves with the self concepts of our students.

We have summarized some of the strengths of our program in the following list:

1. The program combines theory and practice.
2. Recommendation for certification is based on ability to perform specified behaviors.
3. Students accept more responsibility for their work in this kind of a program.
4. The program combines and is using many of the best methods for teaching of teacher training, such as inquiry training, interaction analysis, micro-teaching, curriculum design.
5. The program takes into account individual differences allowing the students to progress at their own best pace.
6. Students are team taught and they work as a team giving them opportunity to teach in large and small groups and to individualize as they student teach.
7. Areas of unnecessary overlap in the professional sequence of courses have been eliminated.
8. The program requires and results in effective in-service training program for the cooperating teachers with whom we work.
9. Team student teaching, by decreasing the number of classroom stations, allows us to be more selective in assigning classrooms and in assigning the very best cooperating teachers.
10. Activities such as micro-teaching, interaction analysis, and team student teaching reduce the possibility of a student teacher learning from one poor teacher model thus perpetrating the weaknesses of our present education system.
11. The graduates seem to differ in their positive attitude toward themselves as teachers and toward the profession of teaching.