

THE DEVELOPMENT OF A PRETEST FOR USE WITH  
THE COURSE METHODS OF TEACHING HOME  
ECONOMICS AS IT IS TAUGHT AT  
OKLAHOMA STATE UNIVERSITY

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## CHAPTER I

### INTRODUCTION

Exciting new ideas are coming forth in the field of education. Different methods of presentation are being tried, programmed learning devices and individualized instructional materials are being developed. Some states are experimenting with the use of five year certification programs and with educational internships.

Instructors in the field of education are allowing their courses to be evaluated by students as well as their peers in an effort to improve instruction. In some instances entire curriculums have been evaluated by students and faculty. Individual instructors are working with various methods of evaluation in an effort to improve their courses.

All over the nation educators are taking a long look at the professional education courses. Students complain that these courses are irrevelant and repetitious. Other students hear these complaints and form attitudes toward these courses before they enroll in the first course.

It is generally accepted that attitudes effect classroom behavior. Positive attitudes promote learning and negative attitudes

form barriers. Before learning can take place the barriers have to be removed.<sup>1</sup>

Teachers strive to eliminate the barriers students bring to their classes. The idea that a course is repetition of previously taken courses can be called a negative attitude. Whether the course is largely repetitious or not is relatively unimportant, but if the student resents this repetition it is important. Some courses build upon the knowledge gained from other courses of like nature. Methods of Teaching Home Economics seems to be such a course, building upon knowledge of educational principals from other sources and applying that knowledge to the teaching of home economics in the secondary schools. Yet, students coming into this course complain that it is a repetition of courses previously taken.

Educators use repetition effectively to emphasize a point, to reinforce a newly formed concept, to consolidate understandings and to facilitate recall, however, there is a point when the use of repetition defeats the purpose for which it was intended, and students become bored.<sup>2</sup> It is generally accepted that students allowed to test their knowledge of a course in which they are enrolled would be more inclined to accept some repetition as facilitating recall. Determining how much knowledge of a course the student brings with him to the course can be accomplished by giving a pretest based on the objectives of that course.

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<sup>1</sup>Howard Kingsley, revised by Ralph Gary, The Nature and Condition of Learning. (Englewood Cliffs, N. J., 1957), p. 21.

<sup>2</sup>David P. Ausubel, "A Cognitive-Structure Theory of School Learning," Laurence Siegel, ed. Instruction Some Contemporary Viewpoints. (San Francisco, Calif., 1967), p. 207.

The knowledge gained from the results of a pretest can be used in curriculum building, showing individual and class needs, can be used for effective grouping of students and can be used for student motivation and self-evaluation. A pretest can point out individual differences in students, which can allow the instructor to plan more meaningful experiences for each student. The use of a pretest can lead to improved instruction.<sup>3</sup>

A pretest based upon the objectives of the course, Methods of Teaching Home Economics, would serve two major purposes in helping students build more positive attitudes toward the "Methods" course. First, it would allow students to evaluate themselves as to the amount of knowledge of methods of teaching they possess when they come into the course and second, the instructors of the course could assess the amount of knowledge each student brings to the class. Even though students have been enrolled in the same courses at the same college with the same instructor, their competencies in that course may differ greatly due to individual differences.

As a diagnostic instrument the pretest can be used to determine the needs of each student in her effort to achieve the objectives of the course. This instrument can point to the need for individualized instruction through the use of programmed learning devices, film loops, tapes, etc. In addition to group instruction, each student, recognizing her own needs and interests, can be working at her own speed, to achieve her objectives and the objectives of the course.

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<sup>3</sup> Clara Browy Army. Evaluation in Home Economics. New York: 1955, p. 28.



### Purposes

At present there does not exist an evaluative instrument for use as a pretest with the course Methods of Teaching Home Economics as it is taught at Oklahoma State University. Members of the Home Economics Education Staff expressed a need for an instrument that could be used as a pretest with the "methods" course as a possible aid in curriculum revision, in identifying individual differences, in improving teaching and in eliminating repetitious materials.

Students enrolled in Methods of Teaching Home Economics have complained that the course is largely repetition of courses taken previously outside the Department of Home Economics Education. This instrument would be an attempt to measure the knowledge of Methods of Teaching students bring to the class in an effort to determine individual student differences, to eliminate possible repetition and ultimately make the course more meaningful for the students in Home Economics Education at the undergraduate level through the use of more individualized instruction.

Repetition of educational objectives already accomplished is a waste of time, resented by the student and avoided by instructors when known. This instrument would allow both student and instructor to see the amount of knowledge of the course Methods of Teaching Home Economics students already possess.

This evaluation device would:

1. fill an expressed need
2. show if repetition of previously taken courses does exist
3. point out individual differences

4. allow both students and instructor to see the amount of knowledge about Methods of Teaching students bring to class
5. ultimately lead to improved curriculum in the "Methods" course.

#### Statement of the Problem

This study is the development of a pretest for use with the course Methods of Teaching Home Economics as it is taught at Oklahoma State University. The objective of the study is:

To construct an evaluative instrument suitable for use as a pretest with the course Methods of Teaching Home Economics.

#### Limitations of the Study

This study is based on and is limited to the sequence of professional education courses as required at this time by the Department of Home Economics Education, Division of Home Economics, Oklahoma State University. This sequence as taught at Oklahoma State University is listed in the College Catalog<sup>4</sup> as:

Education 2113: The School in American Society. A study of the American school system designed to develop an understanding of the scope, function, and organization of education in our state and society.

Educational Psychology 3113: Child and Adolescent Psychology. Effects of heredity and environment on physical, mental, social and emotional development of individual through adolescence.

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<sup>4</sup> Oklahoma State University Catalog  
(Stillwater, 1967-1968), p. 207, 212, 233.

Home Economics Education 3313: Methods of Teaching Home Economics. Principles of learning, methods, and materials of teaching appropriate for teaching Home Economics at secondary level; observation of various classroom situations; planning homemaking programs as part of the total school program.

Since every test should be tried in an actual classroom situation this study is further limited to being administered to three groups of prospective teachers enrolled in Home Economics Education courses during the school year 1968-1969. These students marked the test and the scores were analyzed for item difficulty. The analysis of the scores formed the basis for revising the test. Item analysis to discover discriminatory ability is limited to the test administered to one group of students enrolled in Methods of Teaching Home Economics during the spring semester 1968-1969.

#### Procedure

The general procedure of this study included:

1. A careful study of the three courses involved, using course outlines, syllabi, textbooks and reading lists.
2. Identification of the objectives and points of emphasis of each of the courses through personal interviews with each of the instructors.
3. Selecting the concepts germane to this study.
4. Constructing a pretest using multiple-choice items, each with five distractors.
5. Administering the pretest, analyzing the scores, revising the pretest.

### Definition of Terms

Many writers give definitions of pretests. This writer has taken ideas from several sources and the definition given is a composite of those ideas. A pretest is an evaluative instrument administered at or near the beginning of a given course to determine how much knowledge of that course the students enrolled in that course bring with them.

Item analysis is the examination of each item in an effort to determine its strengths and weaknesses. This analysis usually reveals two important features of each item - discriminating power and item difficulty.<sup>5</sup>

Discriminating power refers to that ability of an item to differentiate between high scoring students and low scoring students.<sup>6</sup>

Item difficulty refers to the percentage of students marking the item correctly. It has been suggested that those items which more than 90% of the class mark correctly are too easy and those items which less than 15% of the students mark correctly are too difficult. This definition again is a composite of ideas from many writers.

There are many ways of stating the definition of a concept. For this study the one stated by Tinsley and Sitton<sup>7</sup> was chosen.

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<sup>5</sup>J. Stanley Ahmann and Marvin D. Glock. Evaluating Pupil Growth (Boston, 1967), p. 184.

<sup>6</sup>Ibid. p. 187.

<sup>7</sup>Willia Vaugh Tinsley and Margaret Sitton. "Teaching Intellectual Aspects of Home Economics Through the Identification of Basic Concepts, Journal of Home Economics, Vol. 59, No. 2 (Feb., 1967), p. 86.

"A concept is an idea which a person forms in his mind in order to understand and cope with something in his experience. It is composed of meaning and feeling, which may not be expressed by words."

#### Summary

Interest in developing a pretest for use with the course Methods of Teaching Home Economics as it is taught at Oklahoma State University was aroused when Home Economics Education staff members expressed a need for such an instrument. Undergraduates enrolled in courses in the Department of Home Economics Education complained that these courses were just repetition of previously taken courses. Whether the accusation of repetition is borne out or not, the pretest can point to individual student differences and play a small part in the search for ways to improve an education course.

This study is limited to developing a pretest based upon the sequence of courses as they were taught at Oklahoma State University during the school year 1968-1969 and is further limited to being tested by a selected group of students enrolled in the Department of Home Economics Education for that period of time.

The procedure is divided into three general stages. First, the content, emphasis and objectives of the three courses involved were obtained and studied; selection of concepts and type of test to build prefaced item construction and the actual test construction; the third stage was administering, analyzing and revising the pretest.

## CHAPTER II

### REVIEW OF LITERATURE

The readings for this study ranged over several areas. The areas of current ideas concerning professional educational courses as well as philosophies on evaluation are discussed. Further, a general philosophy for the use of pretests is included as is a review of the use of pretests in the College of Home Economics at Oklahoma State University. This study has also led into the area of test making and a section is included on the use of multiple choice type objective tests. The review is concluded with a section concerning the three courses involved in the study and with two studies especially pertinent to this work.

#### Current Thought Relative To Professional Educational Courses

In answer to student and instructor complaints, teacher educators are searching for ways to improve education courses. Much has been written about professional education courses, both pro and con; from the educator point of view and from the student's point of view. Articles written by leaders in the field of teacher education are presented, with the first being written from the teacher educator viewpoint and the last are reports from research projects which recently have been done in an attempt to isolate student opinions of professional education courses.

As long ago as 1956, Lehman<sup>1</sup> said, "If we were sending out home economics teachers who had a real understanding of homes in our society and a real knowledge of human development, we could 'scrap' our home economics education courses. In 1966, Moskowitz<sup>2</sup> wrote, "our education industry needs retreading." Education courses have not been "scrapped," but there seems to be a groping toward retreading in the search for ways to improve education courses.

Galloway<sup>3</sup> writes of the dilemma in which the educator finds himself. On the one side are the past successes and he finds it hard to relinquish proven methods. On the other hand student dissatisfaction and the demands of the schools for better teachers disclaim the past and show the need for innovations. The problem comes in knowing what to retain from the old and what should be changed for the future. Building a program is less fashionable than expressing dissatisfaction as it is always easier to criticize than to construct. Don Davies<sup>4</sup> makes a plea for relevancy in teacher education programs. As he sees

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<sup>1</sup>Ruth T. Lehman, "The Education of a Home Economics Teacher," Journal of Home Economics. Vol. 48 No. 2., (Feb., 1956), p. 88.

<sup>2</sup>Ronald Moskowitz, "The Compact for Education," American Association of College Teacher Educator Yearbook. Washington, D. C.

<sup>3</sup>Charles M. Galloway. "Teachers We Need." Theory Into Practice. Vol. VI, No. 5, (Dec., 1967), p. 213.

<sup>4</sup>Don Davies. "A Search For Relevancy," Theory Into Practice. (Dec., 1967), Vol. VI, No. 5, p. 215.

the problem it is one of relevance and proposes five ideas as signposts. Neither new nor profound, the significant ideas are:

1. The development of theories of education out of the study of teaching.
2. The reform of the liberal education of teachers.
3. The collaboration between school and colleges with overlapping sovereignty for teacher education.
4. The preparation of teachers to live and teach in a multi-cultural, multi-racial, multi-class world.
5. The preparation of teachers to be innovators.

Relevancy is related to Cottrell's<sup>5</sup> writing of the need for professional educational practitioners who know what they are doing as they interact with learners. Teachers must have the scope and quality of understanding to bear the responsibility of their work. On this rests the stability of free culture and its very capacity to cope with new challenges. Awareness of these needs probably prompted L. O. Andrews<sup>6</sup> to write:

Over the years, there has been very little change in the criticisms of professional teacher education courses and few major modifications have been incorporated into regular programs.

Fitting the requirements of teacher education programs into the present time limitations may in part account for the lack of change.

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<sup>5</sup>Donald P. Cottrell. "The Long View of Teacher Education," Theory Into Practice. Vol. VI, No. 5 (Dec., 1967), p. 230.

<sup>6</sup>L. O. Andrews. "A Curriculum to Produce Career Teachers," Theory Into Practice. Vol. VI, No. 5, (Dec., 1967), p. 236.



Denemark<sup>7</sup> suggests that the time limitations show a need for new applications of instructional media and technology. Many things now a part of the scheduled class could be programmed to better fit the individual needs of each student.

The individual needs of the students are the concern of Kimball Wiles<sup>8</sup> as he writes about methods courses. For the most part they are taught by people who favor one program or another which they have found works for them. There is a serious lack of research on the total teaching act. "Students in teacher education should recognize that all educators are students of the teaching process." One method is no longer sufficient for today's teachers.

The need for improvement in teacher education programs is the theme in many current writings. Garth Sorenson<sup>9</sup> makes four suggestions which he feels would improve teacher education curriculums. They are:

1. Present curriculums do not help prospective teachers achieve a clear and reasoned definition of the primary obligations of public school teachers and the alternate ways in which these obligations have been defined. Seldom does anyone trace the reasoning back of the alternative points of need.
2. Too, little effort is made to teach prospective teachers how to teach or even to think clearly about the instructional process.

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<sup>7</sup>George Denemark. "Preparing Tomorrow's Teachers," Theory Into Practice. Vol. VI, No. 5, (Dec., 1967), p. 252.

<sup>8</sup>Kimball Wiles. "The Teacher Education We Need," Theory Into Practice. Vol. VI, No. 5, (Dec., 1967), p. 260.

<sup>9</sup>Garth Sorenson. "Suggestions for an Improved Curriculum in Teacher Education," The Journal of Teacher Education, Vol. XVII, No. 3 (Fall, 1966), p. 324.

3. Some student teachers, often the brightest and more independent, feel that they are being pressured to perform in ways of which they personally disapprove or that they are in personality conflict with their master teacher.
4. Professional educational courses frequently bear no apparent relationship to one another nor to practice teaching.

Drumheller and Paris<sup>10</sup> write "education instructors and students alike are agreed that pre-student teaching methods courses tend to be dull and sterile."

Getting prospective teachers into the classroom before enrolling in the professional educational courses presents a dilemma to both student and educator. The five year accreditation program used in some states is one solution. Many agree that if the prospective teacher could be in the classroom for a while in a role other than as a student their attitude toward the educational courses would be different and courses could be much more meaningful.

Research in three widely diverse localities reveal these student attitudes toward professional education courses. Frank Smith<sup>11</sup> from Stephen F. Austin College, Texas questioned seventy-eight elementary majors and came up with these results:

Methods courses differ from instructor to instructor and college to college. Some are obviously lacking while others have much to offer. But this is true in all other areas. Few methods courses have reached a point of discontinued development. Most are improved as new methods and techniques are brought to light. This is not always true of courses outside the methods area.

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<sup>10</sup>Sidney J. Drumheller and John Paris. "An Effective Approach for Incorporating Teaching Experiences in Methods Courses." The Journal of Teacher Education, Vol. XVII, No. 3 (Fall, 1966), p. 290.

<sup>11</sup>Frank Smith. "Methods Courses as Seen by Students," Improving College-University Teaching, Vol. 13-14 (Spring, 1966), p.120.

The opinions expressed by this group of students indicated that these courses are satisfying a need. Eighty-seven per cent of those polled revealed they would have taken these courses even if they had not been required to do so. They agreed that these courses help prepare them for their chosen profession. They were almost unanimous in the opinion that methods courses are not "snap" or "grade point." This indicates they would not take them in order to "coast" or "fatten" their grade point average. Ninety-one per cent of the group express the opinion that these courses should be required for certification.

It is possible that today's critic of methods courses is using yesterday's information for his denunciation. Methods courses have changed, are changing, and will continue to satisfy the need for which they were originated.

Teacher education programs in Washington State differ from those in Texas, in that Washington requires five academic years and two years experience before the standard teaching certificate can be awarded. After four academic years the B. A. degree is awarded and the teacher may work with a temporary certificate. Thus some of the students enrolled in teacher education programs in Washington have been actually teaching before they enroll in teacher education courses.

Pettit<sup>12</sup> investigated student opinion of teacher education courses as taught at East Central Washington College. Two-hundred and twenty students were asked to rate nine teacher education courses on a scale from 0 to 10. Scores of a low 3.9 to a high 8.3 were recorded with a composite of 6.5. Pettit believes that these ratings indicate that:

1. Education courses can and do make significant contributions to the preparation of teachers.

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<sup>12</sup>Maurice L. Pettit. "What College Graduates Say About Education Courses," Journal of Teacher Education. Vol. XV, No. 4 (Dec., 1964), p. 378.

2. Education courses can and must be evaluated for the purpose of improvement.
3. Education courses can and must be well taught.
4. Education courses when well designed and well taught, earn the respect of the most critical students and college professors.
5. Graduating seniors are eager to give objective ratings and valuable help for the improvement of courses and instruction on the college level.

A more elaborate research project was done in New York state by Scherwitzky<sup>13</sup> who developed an attitude scale of ninety items concerning attitudes toward the teacher education courses which was administered to 1,337 students attending State University College at Oneonta, New York, during the spring semester of 1961. The data obtained from the attitude scale replies were analyzed revealing both negative and positive relationships. No relationship exists between student attitudes toward education courses and father's occupation, grade-point average or to whether teaching plans were short or long term.

Freshmen attitudes were more favorable toward education courses but favorableness dropped in higher classes with seniors having the least favorable attitudes. Curriculum major was found to be a significant factor. Early childhood, elementary and early secondary majors had more favorable attitudes which decreased from freshmen to seniors. Home economics majors' attitudes increased in favorableness from freshmen to seniors.

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<sup>13</sup>Marjorie Scherwitzky. "Attitudes of Students Toward Education Courses at the State University College, Oneonta, New York," Journal of Teacher Education (The), Vol. XV, No. 2 (June, 1964), p. 204.

The replies indicated that the seniors felt education courses were not well taught, were not so interesting as other courses, did not stimulate their interest in becoming teachers, did not aid them in forming good relations with children, did not help them to use with children subject matter learned in other courses, and did not make them perceptive of the difficulties of a good teacher or of their own lack of knowledge of teaching. In addition, the majority of seniors revealed through their responses that they felt there was a sameness about the courses, that there was "watered-down" content and that education courses did not call for critical thinking or provide stimulation for the more able students....<sup>14</sup>

However, responses from students in all classes did not uphold the contention that education courses are not an essential part of teacher preparation and that the time spent on them would be better spent on liberal arts. Replies from all classes except the freshmen class upheld the criticism that education courses tend to be repetitious.

#### Evaluation

Evaluation is an integral part of our lives, touching every facet, in which value is placed upon the object under consideration. In education, evaluation is an attempt "to enable the right pupils to receive the right education from the right teacher."<sup>15</sup>

Evaluation is a continuous process, having many aspects, of which tests are only a part. Tyler<sup>16</sup> starts the evaluation process of a

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<sup>14</sup>Ibid. p. 209.

<sup>15</sup>H. H. Remmers and N. L. Gage. Educational Measurement and Evaluation, New York: Harper and Brothers (1955), p. 1.

<sup>16</sup>Ralph W. Tyler. Basic Principles of Curriculum and Instruction. Chicago: The University of Chicago, (1950), p. 69.

given classroom with determining the objectives of that class. Learning experiences then are devised which are related to the objective.

The process of evaluation is essentially the process by which we determine how well a curriculum or program of study is meeting the educational objectives. Since educational objectives are changes in human behavior then evaluation becomes a process by which the degree of changed behavior is measured.

Two important aspects of evaluation emerge from this conception. First, evaluation must appraise student behavior since education is seeking to change this behavior. Second, in order to know the degree of change several appraisals are necessary. An early appraisal is essential to know what behavior the student exhibited at the beginning of an educational experience and a later appraisal to determine to what degree a change has been affected.

Ahmann and Glock<sup>17</sup> reiterate Tyler's writings, that evaluation begins with determining the educational objectives of the course, and that at least two appraisals are necessary during the instructional period, one near the beginning and one near the end.

Cozine<sup>18</sup> echoes Tyler's writings and applies some of his principles to Home Economics. She writes that evaluation should be a

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<sup>17</sup> Stanley Ahman and Marvin D. Glock, Evaluating Pupil Growth. Boston: Allyn and Bacon, Inc. (1967).

<sup>18</sup> June Cozine. "Evaluation" (unpublished mimeographed material, 1959), p. 1, 3.

part of the total program and not a separate process. Frequently curriculum is based on the individual needs of the students.

One of the principles frequently followed today in curriculum construction is that of building the unit of work course, or curriculum on the needs of the students. The needs of the student being considered as the differences in the proficiency which is sought as being the desirable outcome. Within a given class or group of students rarely will any two students be found with all needs being identical. Methods of evaluation may be used to determine the needs of each student and then it will be possible to identify certain needs which are common to all members of the group as well as individual needs which are different for each student. This information should provide a guide for formulating objectives or for checking and refining objectives which have been used in a particular course as well as pointing up certain objectives which should be selected by each individual student...

If a high enough level of proficiency has been attained by the student, it seems only logical that he should not be asked to repeat courses which are aimed at developing those particular accomplishments, but should be permitted to select courses, or units of work, which would provide new experiences and offer greater challenge...

The growth and development of each individual student to the maximum of his ability is the hope of each educator today. This necessitates the discovering of weaknesses and strengths of each student and in order to strengthen the weaknesses and develop the strengths to the maximum means intelligent guidance.

Thus each of these three have made a plea for the use of pre-tests as a part of the evaluation process. It is just as important to know where a student was at the beginning of a course as it is to know where that student is at the end. If the instructor does not know how much knowledge of a course the student brings to that course he cannot know how much progress has been made or if any progress has been made.

### Need For Pretests

It has become widely accepted that students bring a varying degree of ability to any given classroom. In an effort to identify these skills and abilities many educators recommend the use of pretests. Arney writes that there is a definite need for systematic evaluation of the competencies of all students as they enter college courses. She further states:<sup>19</sup>

Not only should the teacher find out what students know and can do, but the students must make the discovery also if optimum progress is to be anticipated. When students discover their own deficiencies they are likely to work harder to correct them than when someone else points them out.

Remmers and Gage<sup>20</sup> reiterate the need for knowing the achievement of instructional objectives the student already possesses as a result of out-of-school experiences or previous school experiences. When pretests are used the results can be used in planning course emphasis; certain parts may be omitted and other parts may need more emphasis than originally planned. Often, well-constructed pretests serve as stimulators of student interest. Students may learn of their own strengths and weaknesses and distribute their efforts where the greatest need lies.

Hall and Paolucci<sup>21</sup> recommend the use of pretests and list the

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<sup>19</sup> Clara Brown Arney. Evaluation In Home Economics. New York: Appleton-Century-Crofts, Inc. (1953), p. 28.

<sup>20</sup> H. H. Remmers and N. L. Gage. Educational Measurement and Evaluation. New York: Harper and Brothers, (1955), p. 552.

<sup>21</sup> Olive A. Hall and Beatrice Paolucci. Teaching Home Economics. New York: John Wiley and Sons, Inc. (1961), p. 332.



following ways data thus obtained can be used:

1. Curriculum planning. Individuals and classes differ in needs and ability. Data can be used to plan meaningful programs.
2. Motivation of students. You may use pretests to stimulate students to want to learn and to develop responsibility for their own learning.
3. Effective grouping. When it is known how students differ grouping for more effective learning is possible.
4. Student self-evaluation. Students who are given the opportunity to use self-checking devices may gain interest in improving and in directing their own learning.

Tyler<sup>22</sup> uses evaluation devices to gain information about students, believing the more background information the instructor can gain about an individual student the better equipped the instructor is to guide the individual student. A comprehensive program of evaluation has great value in meeting the needs of the individual student.

Working with pretests at New Mexico State University, Hoskins<sup>23</sup> found that with a valid pretest the following could be accomplished:

- A. Permit those students who rated high on the test to enroll in a more advanced course.
- B. Allow more favorable placement of transfer students.
- C. Enable students to better realize their strengths and weaknesses and thus increase interest in the course.

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<sup>22</sup>Ralph W. Tyler. Basic Principles of Curriculum and Instruction. Chicago: The University of Chicago (1950), p. 80.

<sup>23</sup>M. N. Hoskins. "Construction of a Basic Clothing Pretest for Use in the Colleges and Universities in New Mexico," Unpublished Master's Thesis, New Mexico State University Library (1959), p. 2.

- D. Assist the instructor in grouping students according to their experience and needs.
- E. Aid in individual guidance.
- F. Aid in planning curriculum revision.

#### Development And Use Of Pretests In The College of Home Economics At Oklahoma State University

Two departments at Oklahoma State University - Clothing, Textiles and Fashion Merchandising and Foods, Nutrition and Institutional Administration have developed and presently use pretests as placement tests for all incoming freshmen enrolling in the College of Home Economics.

In 1959, Walsh<sup>24</sup> devised the first recorded written clothing pre-test, using an outdated test as a guide, to be used as a placement device in the beginning clothing course at Oklahoma State University. Walsh did not administer the test to preliminary tryout groups, but submitted the test as an untried instrument. She states:

The writer does not submit the pretest as a flawless instrument. There is much room for improvement. The most effective way to insure having a better test is to use the one now developed, study the results and offer criticisms and suggestions for improvements and then continue to use their successors.

The Walsh test was administered to all incoming freshmen enrolling in the College of Home Economics during the summer of 1959.

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<sup>24</sup>G. M. Walsh. "The Development of a Pencil and Paper Pretest for Placement of College Students in First Courses in Clothing, Textiles and Merchandising at Oklahoma State University." Unpublished report, Oklahoma State University (May, 1959), p. 52.

Believing that students enter college with varying degrees of previous experience and ability in clothing construction and that these skills cannot be measured entirely by a pencil and paper test, Witt<sup>25</sup> in 1961, revised the Walsh test and developed a station-to-station test designed to evaluate the students manipulative and judgmental skills pertaining to clothing construction, selection and care. Witt's study revealed a need for evaluating different skills for placement as a student who scored high on one problem did not automatically score high on the second problem. The recommendation was made that to be effective an evaluation device should be revised quite often.

In 1963, Gould<sup>26</sup> investigated the relationship between student performance on written and performance evaluative devices, hypothesizing that a pretest could be developed which would differentiate between students with a high and low degree of skill in clothing construction. Gould limited her study to devising a performance pretest for use in sectioning students and to the study of the correlation of scores on the performance test and the paper and pencil test already in use by the department.

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<sup>25</sup>M. R. Witt. "The Revision and Development of Selected Evaluation Devices for Appraising Certain Clothing Competencies of College Freshmen." Unpublished Ed. D. dissertation, Oklahoma State University Library (1961).

<sup>26</sup>G. F. Gould. "A Performance Pretest for Placement of College Students in Beginning Clothing Courses." Unpublished Master's Thesis, Oklahoma State University Library (1963).

Gould concluded from the correlation coefficient of .70 that the scores on the two tests were related to some degree, but that a high score on one test did not insure a high score on the other test. Gould recommended that further studies be made.

As a graduate teaching assistant working with the beginning clothing construction classes, Berry<sup>27</sup> saw the need for revising the paper and pencil pretest given as a sectioning device. After studying the existing pretests, administering these instruments to 49 students enrolled in the beginning clothing construction course, and analyzing the scores, Berry proceeded with a revision.

From a study of the revised pretest she recommended that:

1. The item analysis of the revised pretest revealed many of the test items to be non-discriminating.

It is therefore, suggested that the instrument be carefully revised before used in an attempt to replace non-discriminating items with those that may differentiate the superior and poor students.

2. The addition of ten to fifteen practical type test items similar to the five included in the study is recommended in an attempt to increase the validity of the pretest.
3. The use of a variety of evaluative instruments along with the written clothing pretest is suggested in order to facilitate the establishment of validity of the written device.

The pretest presently in use is a composite of all the above ideas.

Using the objectives of the beginning food course, Steelman<sup>28</sup>

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<sup>27</sup>J. C. Berry. "The Revision and Development of a Clothing Pretest for Appraising Competencies of First Year Clothing Students." Unpublished Master's Thesis, Oklahoma State University Library (1963).

<sup>28</sup>V. P. Steelman. "Development of an Objective Written and Laboratory Pretest Based on Aims and Generalizations for a Beginning College Food Preparation Courses." Unpublished Master's Thesis. Oklahoma State University Library (1963).

formulated generalizations and from the objectives and generalization formulated the test items used in her paper and pencil pretest. A laboratory test, which was objective in nature was also formulated.

Analysis of pretest scores revealed that seventy-six per cent of the items on the theory section of the pretest proved to be discriminating and seventy-seven per cent of the laboratory pretest items were discriminating. Steelman recommended that the theory section of the pretest should contain 150 discriminating items ranging in order of difficulty, and that the laboratory section definitely needs to be longer. She recommends further work with this test to determine norms for use as a placement device.

Cooksey<sup>29</sup> in 1964, developed a pretest for use with the beginning Nutrition courses as taught at Oklahoma State University. Both Steelman and Cooksey were preparing their tests at the time the respective area was in the process of revising the courses. Each of them was able to take the objectives from the existing courses and formulate new ones for the courses as they would be taught in the future. From these objectives and the subsequent generalizations, the test questions were devised. The test was administered to 137 students enrolled in beginning nutrition courses at Oklahoma State University.

Cooksey felt that her Nutrition Pretest was valid and reliable, but before it could be used as an exemption device it should be administered to a large number of students in order to set norms.

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<sup>29</sup>D. C. Cooksey. "Pretest in Beginning College Nutrition Based on Objectives, Concepts and Generalizations." Unpublished Master's Thesis, Oklahoma State University Library (1964).

Musgrave<sup>30</sup> in 1968, revised the Cooksey pretest in an effort to increase the content validity and reliability to the point that the pretest can be used as an exemption device. A pretest consisting of 100 multiple-choice items was constructed which met the acceptable levels of discriminating ability. She recommended that the pretest be given as a placement test.

#### Advantages and Disadvantages of Using Multiple-Choice Test Items

Choosing the appropriate type of test for use in the classroom requires considerable deliberation on the part of the teacher. Years of experience and much research have proved that the multiple-choice item with several distractors from which to choose the one correct or best answer is the most effective of the objective tests. It is considered an art to write these items well.<sup>31</sup>

The advantages of multiple-choice items are impressive according to Ahmann and Glock.<sup>32</sup> The most impressive feature is its versatility, determining equally well a student's ability to recall specific bits of information and application of principle to a novel

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<sup>30</sup>K. O. Musgrave. "The Refinement of a Pretest for Beginning College Nutrition." Unpublished Master's thesis. Oklahoma State University Library (1968).

<sup>31</sup>Max D. Englehart. Improving Classroom Testing. Washington 1964, p. 15.

<sup>32</sup>J. Stanley Ahmann and Marvin D. Glock. Evaluating Pupil Growth. Boston 1967, p. 95.

situation. Added to the advantage of measuring different levels of learning is the advantage of ease and objectivity of scoring. With a reasonable amount of patience and ingenuity any teacher can build and use multiple-choice items effectively. However, multiple-choice test items are not a panacea for the ills of achievement testing. They do have limitations. They are hard to build and suitable distractors are difficult to find. Students require more time in marking multiple-choice items than other forms of objective tests, particularly if there is a demand for fine discriminations and understandings.

Well written multiple-choice items have the added advantage of presenting several possible answers to the question posed, the student being asked to choose the best answer and defending that answer. Very complex problems can be presented as well as several items concerning the same area. Its great flexibility makes for great usefulness.<sup>33</sup>

The multiple-choice test item is considered most useful and reliable because it can be scored completely objectively and the use of several alternatives for each item reduces the guessing ability of the student. Many varieties of ability can be measured successfully by the use of multiple-choice items, such as; knowledge, translation, interpretation, and application.<sup>34</sup>

Listing advantages and disadvantages is popular with authors writing about multiple-choice items. Two such lists have been chosen for inclusion in this chapter for their clear and graphic presentation.

<sup>33</sup> Dorothy Adkins Wood. Test Construction. Columbus, Ohio (1960).

<sup>34</sup> C. M. Lindvall. Measuring Pupil Achievement and Aptitude. San Francisco (1967), p. 42.

Furst<sup>35</sup> lists only advantages:

1. They set up a forced-choice situation.
2. They do not depend upon skill in expression and handwriting.
3. They permit a wide sampling in a relatively short period of time.
4. They permit highly objective scoring.
5. They permit rapid and easy scoring.
6. They lend themselves more readily to statistical analysis.

Garrett<sup>36</sup> contrasted four advantages with four disadvantages.

Advantages:

1. Answers are objective and are rapidly scored.
2. Items may be written to measure inference, discrimination and judgment.
3. Guessing is minimized when four or five choices are allowed.
4. Items may be constructed to measure recall as well as recognition.

Disadvantages:

1. Items are often too factual.
2. More than one response may be correct or very nearly correct.
3. It is difficult to exclude clues.
4. Distractors - that is, incorrect but plausible answers - are often hard to find.

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<sup>35</sup> Edward J. Furst. Constructing Evaluation Instruments New York (1958), p. 201.

<sup>36</sup> Henry E. Garrett. Testing for Teachers. New York (1959), p. 193-194.



### Courses and Concepts Relative to this Study

In preparing to construct the pretest for use with the course Methods of Teaching Home Economics as it is taught at Oklahoma State University, it is necessary to consider related studies and three courses, the two courses prerequisite to the methods course and the methods course. Two studies were especially pertinent in that they were concerned with concepts germane to home economics education. The first is the work of teacher educators working in seminar and the other is the work for a Master's thesis.

A group of thirty-six home economics teacher educators met in seminar at the University of Nebraska<sup>37</sup> in 1966 for the purpose of:

1. Evaluating and refining the material in "Concept Structuring of Home Economics Education Curriculum," developed at the University of Nevada Seminar.
2. Identify comparable structure appropriate for the content of graduate courses in home economics education.
3. Plan for the use and evaluation of the materials developed.
4. Offer suggestions for research on testing the validity of the materials.

The educators in this were working with five concepts believed to comprise the fundamental ideas around which both the undergraduate and graduate program of home economics education are based. These five are:

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<sup>37</sup> Shirley Kruetz and Hazel Anthony. "Home Economics Education, Objectives and Generalizations Related to Selected Concepts." (Mimioographed report of material developed by a Seminar to identify the Structure of Knowledge in Home Economics Education, under contract with the Office of Education, U.S. Department of Health, Education and Welfare.) 1966 Lincoln, Nebraska.

1. Philosophy of home economics education.
2. Professional role of home economics education.
3. Program planning in home economics.
4. Evaluative process in teaching home economics.
5. Research in home economics education.

Objectives and generalizations for each of the concepts were formulated which were appropriate for the undergraduate program and again for the graduate program.

The Nebraska Conference<sup>38</sup> was an attempt by some home economics educators to put into specific terms what they thought the content of home economics education should be.

It was not the purpose of the group to arrive through consensus at a well-defined outline of precisely what constitutes the content of home economics education, but it was an attempt to develop structure in the belief that in identifying the fundamental ideas, instruction can be planned for efficient and effective learning of ideas. This seminar was for the purpose of exploring ideas and attaining what a number of people at a given time thought the fundamental ideas of home economics education to be.

An earlier study by Hunzinger<sup>39</sup> identified four concepts germane to the "Methods of Teaching Home Economics" as the course was taught at Kansas State University. She administered a questionnaire to the

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<sup>38</sup> Ibid, p. 9.

<sup>39</sup> Maxine Lovell Hunzinger. "An Exploratory Study to Identify Concepts and Determine Concept Attainment in a Home Economics Education Course." (Unpublished Master's Thesis, Kansas State University, 1964).

students enrolled in the course in the spring of 1964 and isolated the following concepts:

1. Effective and meaningful planning helps the teacher as she guides pupils toward learning objectives.
2. Student teaching provides an opportunity for the student teacher to begin to assume the role and responsibilities of a classroom teacher.
3. Programs of learning are planned to meet needs of specific groups of pupils having a variety of individual differences.
4. A variety of means may be used to evaluate pupil learnings effectively.

Along with these two studies the materials from three courses was considered. The first of the professional courses, Education 2113: The School in American Society is designed to fit into the second year of college work and is required of all education majors, regardless of subject matter area, (i.e., home economics, agriculture, history, math, etc.). The students coming into this course have had an Orientation course in their respective colleges which may or may not follow the format of the orientation course required by the College of Education.

This is not a course about teaching, but about schools and their place in society. Selakovich<sup>40</sup> gives an overview of the course in the syllabus in which he tells of the major goals of the course. The focus of the course is socio-political with personal, community and national values considered at length. The position is taken that schools cannot teach a specific set of values, but can only examine them. It is assumed that schools tend to reflect society rather than leading

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<sup>40</sup>Daniel Selakovich. "Syllabus, The School in American Society" (Unpublished material, Department of Education, Oklahoma State University, 1967), p. 1.

society down new paths. A thorough examination of the forces that influence the school is included and a brief look at school organization.

The last part of the course poses the question: Can the school change society? This does not mean to contradict the major theme that the schools reflect the major values of the society, but it attempts to point up certain forces of change which have affected and will continue to affect the role of the schools in our society. Although the selections which illustrate change are arbitrary selections from many possibilities, it is believed that they are significant. These include the new militancy of the teacher, the force of technology and the new interest in human relations; especially the push for human equality - with which the school must deal. We think these forces present the schools with certain imperatives for change which they may find difficult to ignore. The main object of the course is to deal with the big ideas - to put the schools in their broad general setting as an essential, vital, and tremendously significant force in our society.

The second course in this sequence of professional educational requirements is Educational Psychology 3113: Child and Adolescent Psychology which is designed to come the semester before Methods of Teaching Home Economics in the students plan of work.

This course is concerned with the growth and development of the child from birth until the age of fourteen, studying the effects of heredity and environment on the physical, mental, social and emotional development of the individual. The traditional theories of child psychology are presented, as well as some of the newer ideas such as those of Piaget and Guilford.<sup>41</sup>

Adolescent psychology has not been included in the textbook nor is it emphasized in the course. McCandless states: "As the literature for children becomes more sophisticated, such sampling from other-than-

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<sup>41</sup>Boyd R. McCandless. Children: Behavior and Development Dallas, 1967. p. 7.

child populations becomes less necessary."<sup>42</sup>

The third course in this sequence is Home Economics Education 3313:<sup>43</sup> Method of Teaching Home Economics, a course planned within the framework of the concepts, objectives and generalizations from the Nebraska conference.<sup>44</sup> This course is taken by students either the last semester of the third year or the first semester of the fourth year of a student's plan of work.

This course synthesizes knowledge from other courses in Home Economics subject matter and the professional education courses. Here the student enrolled takes the materials from the subject matter areas of Home Economics and prepares to teach the subject matter in the secondary schools. Four major concepts are considered:

1. The learner.
2. Program structure in home economics.
3. The teaching - learning situation.
4. The professional role of the teacher.

Individual differences of the learner are considered at length and the importance of accepting and understanding these differences is emphasized. Methods of dealing with individual differences by teacher

<sup>42</sup>Ibid. p. 9.

<sup>43</sup>(Adapted from mimeographed material from the Department of Home Economics Education, Oklahoma State University, 1969).

<sup>44</sup>Shirley Kruetz and Hazel Anthony. "Home Economics Education, Objectives and Generalizations Related to Selected Concepts." (Mimeographed report of material developed by a Seminar to identify the Structure of Knowledge in Home Economics Education, under contract with the Office of Education, U.S. Department of Health, Education and Welfare.) 1966, Lincoln, Nebraska.

and administrators are discussed. Characteristics of adolescents are studied and ways of getting to know students are explored.

Program structure in home economics introduces the student to vocational education and to vocational home economics. Various trends in education and curriculum guides are introduced with emphasis on use of Oklahoma Resource Materials.

Readiness for learning, theories of learning, and motivation are discussed as a part of the teaching - learning process. At this time materials concerning behavioral objectives are presented, both the purpose of objectives and ways of stating them. Classifying objectives according to the three domains, cognitive, affective and psychomotor, is introduced.

The use of concepts and generalizations are explored as well as various learning experiences using traditional and innovative materials. Evaluation in its many forms is stressed as an integral part of the teaching - learning process which continues from the beginning of the course to the end. Planning is thought to be of the utmost importance whether planning the total program or a single day's experience. Various aspects of the role of the teacher are discussed, with special attention given to professional responsibilities and self-evaluation.

#### Summary

In answer to both instructor and student demands there seems to be a general search for ways in which professional educational courses can be improved. Points of view from both teacher educators and students have been presented in this review of literature. There seems to be a general agreement that education courses tend to be dull

and repetitious.

Evaluation, an integral part of our everyday living and a continuous process in education, has many aspects. Through evaluation the instructor can see how much progress a given student is making, the effectiveness of teaching methods, and the relevancy of curriculum to student needs. The use of a pretest can give both instructor and student the opportunity to assess the amount of knowledge of a given course the student brings to that course. This can lead to changed emphasis, revised curriculum, and an increased awareness of individual differences and student needs.

Two departments in the College of Home Economics at Oklahoma State University, Foods, Nutrition and Institutional Administration and Clothing, Textiles and Fashion Merchandizing use pretests as a means of exempting students from beginning classes. These tests use multiple-choice items with three or more distractors.

Three courses and two studies have been vital to this study. The studies concern concepts germane to Home Economics Education. The courses are the courses pre-requisite to the Methods course and the course Methods of Teaching Home Economics.

## CHAPTER III

### PROCEDURE AND ANALYSIS

This chapter contains a brief statement concerning the background material used in this study. Procedure is discussed at length as well as analysis of the test scores.

#### General Procedure

Procedure and analysis were inextricably interwoven in the process of formulating and administering the pretest. The instrument was administered three times to students enrolled in the Home Economics Education Department at the undergraduate level. The second version of the test was revised according to the analysis of the scores from the first test and the third version of the test was the result of the analysis of the scores from the second test.

The procedure used in this study was divided into six general sections:

1. A study of the content of the Methods course and its prerequisites.
2. Selection of concepts to be used.
3. Formulation of the pretest.
4. Administering the pretest.
5. Analysis of the test scores.
6. Revising the pretest.



### Background Material Used In Study

In order to determine content and emphasis in the two courses, Educational Psychology 3113, Child and Adolescent Psychology and Education 2113, The School in American Society, personal interviews were obtained with Dr. Daniel Selakovich and with Dr. Norman Wilson. Dr. Selakovich, responsible for the education course, emphasized that his course was concerned with the big ideas of the school and its place in society, that the focus is socio-political. Dr. Wilson, responsible for the Educational Psychology course, pointed out that his course was concerned with the development of the child from birth to age fourteen. Both shared their syllabi, course outlines and reading lists with the author which were studied carefully. A more detailed review of these materials is included in chapter two. The courses, Education 2113 and Educational Psychology 3113 are prerequisites for Home Economics Education 3313, Methods of Teaching Home Economics, referred to in this thesis as the Methods course.

The writer, working closely with the instructors of both sections of the Methods course, obtained objectives, course outlines and reading lists. Hall and Paolucci, Teaching Home Economics, is the primary text with the following supplementary texts used extensively:

Williamson and Lyle, Homemaking Education in the High School.

Hatcher and Andrews, The Teaching of Homemaking.

Fleck, Toward Better Teaching of Home Economics.

Army, Evaluation in Home Economics.

### Selection of Concepts and Test Type

After an in depth study of these materials along with the report of the Nebraska conference,<sup>1</sup> which identified objectives and generalizations related to selected concepts in home economics education and Hunzinger's study,<sup>2</sup> which identified four concepts germane to home economics education the writer selected five concepts as pertinent to this study. These concepts were included in the objectives of the courses upon which this study is based. They are:

- I. General educational principles.
- II. The role of the teacher.
- III. Adolescent behavior and individual differences.
- IV. Planning for secondary home economics programs.
- V. Evaluation.

The materials used in formulating items for use under the concept, General Educational Principles came from the course, The School in American Society. Items used with the concept, Adolescent Behavior and Individual Differences came from the materials used in the course,

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<sup>1</sup>Shirley Kruetz and Hazel Anthony. Home Economics Education, Objectives and Generalizations Related to Selected Concepts. Mimeographed report of material developed by a seminar under contract with the Office of Education, U.S. Department of Health, Education and Welfare, 1966.

<sup>2</sup>Maxine Lovell Hunzinger. "An Exploratory Study to Identify Concepts and Determine Concept Attainment in a Home Economics Education Course." (Unpublished Master's thesis, Kansas State University, 1964).

Child and Adolescent Psychology. Materials used in developing items concerning three concepts, the Role of the Teacher, Planning for Secondary Home Economics programs and Evaluation are from the Methods course.

TABLE I  
THE NUMBER OF TEST ITEMS AND THEIR PERCENTAGES  
OF THE TOTAL TEST BY CONCEPT

Concept	Number of test items	Percentage of the total test
I. General Educational Principles	13	20.31
II. The Role of the Teacher	7	10.99
III. Adolescent Behavior and Individual Differences	17	26.50
IV. Planning For Secondary Home Economics Programs	21	32.80
V. Evaluation	6	9.40
TOTAL	64	100.00

Table I shows the number of test items grouped under each concept and the percentage of the total under each concept for the third version of the pretest. No attempt was made to weigh one concept more than another but the test items were distributed according to amount of material covered and relative emphasis of the concept in the "Methods" course.

Choosing the type of instrument to build followed the selection of the concepts to be used. A multiple-choice type objective with five distractors was chosen over other types of tests for its ease and objectivity in scoring and for its ability to measure higher forms of cognitive processes as well as recall. The advantages found in multiple-choice type objective tests outweighed the difficulty of finding suitable distractors.

#### Construction of Pretest

Each item was written on a 5 x 8 index card which facilitated arranging and checking. Before compiling the many items into a normal written test form each item was checked by members of the Home Economics Education staff for content validity and by a person not in the field of home economics checking for clarity and word usage.

It was felt that the first version of the pretest which contained 122 items was longer than a student could mark in a fifty minute period without feeling rushed, however, it was decided to administer the test to the twenty-six students enrolled in Student Teaching for the fall semester. An item analysis of their scores would reveal weak items that could be discarded to make a more acceptable test length as well as improve the quality of the test. Despite its length thirteen

students marked all of the items on the pretest.

#### Revision of the Pretest

Each item was analyzed<sup>3</sup> and those items which fewer than five students marked incorrectly were discarded as being too easy to have value in the pretest. Those items which more than twenty students marked incorrectly were discarded as being too difficult.<sup>4</sup> Whether an item was considered too easy or too difficult was the only criteria used for discarding an item from the first version of the test. Eighty of the original items were considered suitable for inclusion in the first revision. An eighty item pretest was considered longer than could be administered during a fifty minute period and give students time to consider those items which were measuring levels of learning beyond simple recall.

The revised pretest was administered during the last third of the semester to 44 students enrolled in the Methods course during the fall semester of 1968. All of the students marked every item, but some of them commented that they felt rushed and would have liked more time to consider some of the items. Each item was analyzed, again discarding those items which were considered either too easy or too difficult.

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<sup>3</sup>Paul B. Diederich. Short-Cut Statistics for Teacher-Made Tests. Evanston, Ill. 1964, p. 7.

<sup>4</sup>Ibid, p. 9.

Sixty-four of the original items were retained as suitable for use with the third version of the pretest. For the purpose of this study sixty-four items were considered an acceptable length to be administered during a fifty minute period.

The third version of the pretest was administered to 36 students enrolled in the Methods course during the spring semester, 1969, during the second class meeting. Each student finished marking the test within the fifty minute period allowed, sustaining the theory that for the purpose of this study a sixty-four item test was an acceptable length for administering during a fifty minute period.

#### Analysis of Test Scores

With the results of the third version of the pretest, a table (Table II) was made that gives the percentage of students that marked each item correctly, by concept. The percentages of students that marked correctly each item within each concept were averaged and the average for Concept I, General Educational Principles was 61.3 percent, Concept II, The Role of the Teacher 75.6 percent, Concept III, Adolescent Behavior and Individual Differences 48.5 percent, Concept IV, Planning for Secondary Home Economics Programs 52.1 and Concept V, Evaluation was 33.9 percent. Thus, percentagewise, the students ranked highest in their marking of Concept II, The Role of the Teacher and lowest in Concept V, Evaluation. Also, the percentages marked correctly covered the entire spectrum, from 0.0 percent to 100.0 percent both falling in the same concept, Concept III, Adolescent Behavior and Individual Differences.

Since the instrument seems to have some merit for further use

with students, it is not included in this thesis, thus only generalizations can be made in regard to this table. Further, these findings must be considered as being applicable only to this one group as each group to which this test may be administered will bring different levels of knowledge to the course.

TABLE II  
THE PERCENTAGE OF STUDENTS MARKING EACH  
ITEM CORRECTLY BY CONCEPT

<u>Concept I</u>		<u>Concept II</u>		<u>Concept III</u>		<u>Concept IV</u>		<u>Concept V</u>	
<u>Item No.</u>	<u>Percent Correct</u>	<u>Item No.</u>	<u>Percent Correct</u>	<u>Item No.</u>	<u>Percent Correct</u>	<u>Item No.</u>	<u>Percent Correct</u>	<u>Item No.</u>	<u>Percent Correct</u>
1	20.0	1	83.4	1	00.0	1	94.5	1	41.7
2	66.7	2	58.4	2	36.0	2	94.5	2	63.9
3	83.4	3	36.0	3	27.8	3	27.8	3	55.6
4	88.9	4	77.8	4	41.7	4	97.2	4	30.6
5	20.0	5	97.8	5	72.3	5	80.6	5	8.4
6	67.8	6	97.8	6	25.0	6	88.9	6	3.6
7	75.0	7	97.8	7	13.6	7	38.9		
8	41.7			8	27.8	8	83.4		
9	83.4			9	83.4	9	22.3		
10	47.1			10	61.0	10	61.0		
11	55.6			11	83.4	11	30.6		
12	55.6			12	10.0	12	60.0		
13	92.0			13	72.3	13	41.7		

TABLE II  
(Continued)

<u>Concept I</u>		<u>Concept II</u>		<u>Concept III</u>		<u>Concept IV</u>		<u>Concept V</u>	
Item No.	Percent Correct	Item No.	Percent Correct	Item No.	Percent Correct	Item No.	Percent Correct	Item No.	Percent Correct
				14	58.4	14	34.0		
				15	100.0	15	34.0		
				16	77.8	16	33.3		
				17	3.6	17	33.3		
						18	19.5		
						19	47.1		
						20	52.8		
						21	52.8		

Thirty-six students marked the third version of the pretest. This table shows the percentage of students marking each item correctly. Concepts referred to : I. General Educational Principles, II. The Role of the Teacher, III. Adolescent Behavior and Individual Differences, IV. Planning For Secondary Home Economic Programs, and V. Evaluation.

A non-statistical analysis of the scores from the third version of the pretest revealed that four students marked all of the items concerning Concept II, The Role of the Teacher correctly. Fewer students marked incorrectly items concerning this concept than the other four concepts. These four concepts - I. General Education Principles, III. Adolescent Behavior and Individual Differences, IV. Planning For Secondary Home Economics Programs, and V. Evaluation have



approximately the same high percentage of incorrectly marked items. Two students marked 35% of the items incorrectly for the lowest number of incorrectly marked items. Two students marked 62% of the items incorrectly and one student marked 67% of the items incorrectly for the highest number of incorrectly marked items.

The scores from this test seem to deny the allegation that the course Methods of Teaching Home Economics is largely repetition of previously taken professional education courses. The scores do reveal individual differences among the students coming into the Methods course.

#### Item Analysis

Item analysis to determine discriminatory ability of each item was computed. Discriminatory ability refers to the ability of an item to differentiate between high and low scoring students. A total of 36 students marked the third version of the pretest. These papers were ranked in order from highest to lowest score, divided into half, counting down 18 papers so that the total was now separated into high and low halves. Keeping the two groups separate, a tally was made for each item marked correctly. The tallies were counted for each group, totaled and the difference found. The difference is the discriminatory ability of that item. The discriminatory ability of each item is given in Table III.

Twenty-eight items show at least minimum discriminatory ability 10 percent of the class as a standard. (For a class of 36 students three or four would be a standard discriminatory index). Forty of the items showed some discriminatory ability, eight of the items

TABLE III  
HIGH-LOW DISCRIMINATION INDEX

Item No.	1	2	3	4	5	6	7	8	9	10	11	12	13
High	5	14	16	17	2	12	14	8	15	11	13	9	16
Low	2	10	14	15	5	13	13	8	14	6	7	10	17
Total	7	24	30	32	7	25	27	16	29	17	20	19	33
Diff.	3	4	2	3	-3	-1	1	0	1	5	6	-1	-1

Item No.	14	15	16	17	18	19	20	21	22	23	24	25	26
High	15	11	8	16	15	14	16	0	8	6	7	16	7
Low	15	10	5	12	14	15	13	0	6	4	11	10	2
Total	30	21	13	28	29	29	29	0	14	10	18	26	9
Diff.	0	1	3	4	1	-1	3	0	2	2	-4	6	5

Item No.	27	28	29	30	31	32	33	34	35	36	37	38	39
High	4	5	17	15	16	3	14	10	18	17	1	17	17
Low	1	6	14	7	15	1	12	10	18	12	1	18	17
Total	5	11	31	22	31	4	26	20	36	29	2	35	34
Diff.	3	-1	3	8	1	2	2	0	0	5	0	-1	0

Item No.	40	41	42	43	44	45	46	47	48	49	50	51	52
High	5	18	16	18	5	17	7	5	7	14	9	4	5
Low	6	17	13	14	9	13	1	5	4	7	5	1	1
Total	11	35	29	32	14	30	8	10	11	21	14	5	6
Diff.	-1	1	3	4	-4	4	6	0	3	7	4	3	4

Item No.	53	54	55	56	57	58	59	60	61	62	63	64
High	8	4	4	10	11	9	10	13	11	6	3	1
Low	4	8	2	7	8	10	5	11	9	5	0	1
Total	12	12	6	17	19	19	15	24	20	11	3	2
Diff.	4	-4	2	3	3	-1	5	2	2	1	3	0

showed no discriminatory ability and twelve items showed reverse discriminatory ability.

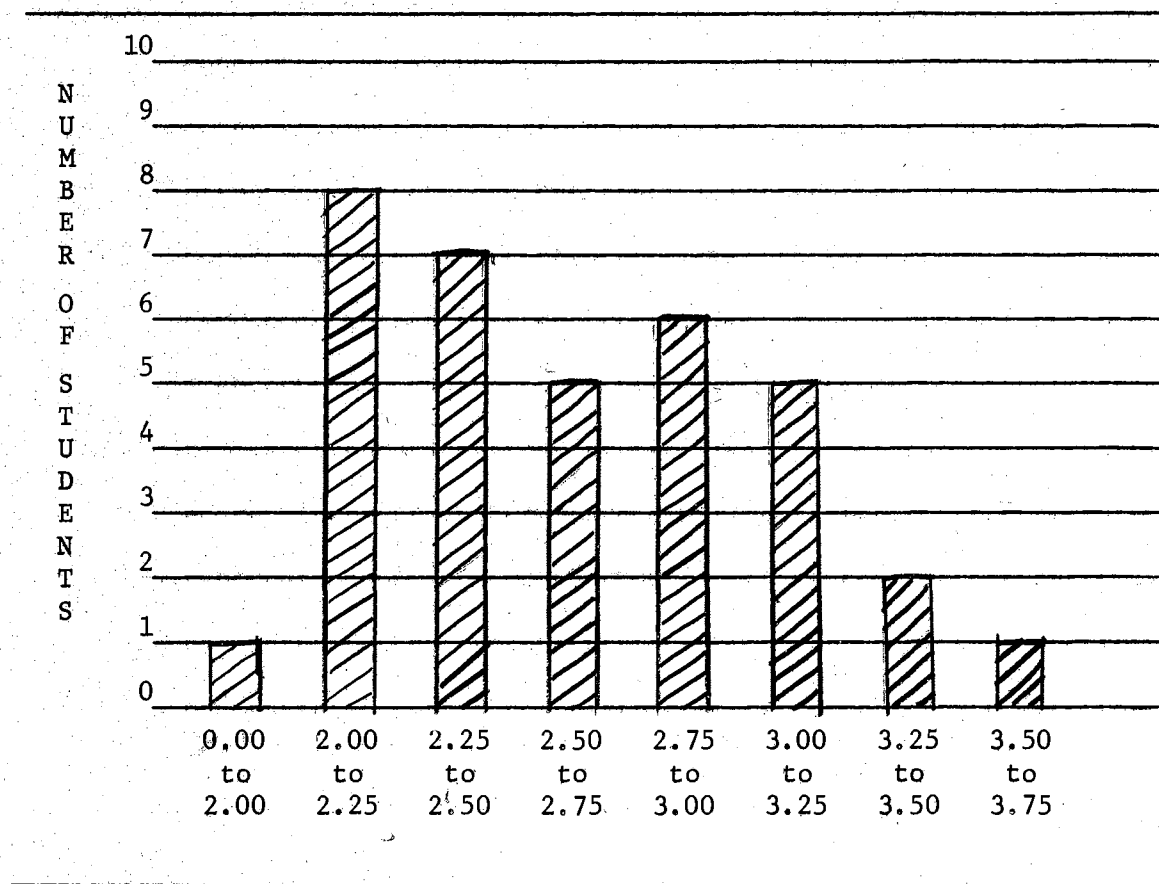
All of the items which have below standard minimum discriminatory ability need some revision. Those which discriminate in reverse may need only rewording to eliminate ambiguousness. Other items may need complete reworking to achieve acceptable discriminatory levels. Before any item is discarded the test should be tried on different groups and many more students.

One point to consider which may have some influence on the discriminatory ability of items included in this pretest is the narrow distribution of grade point averages. The grade point average of this group range from low 1.9 (one student) to a high of 3.5 (one student), with the grade point average of twenty-six students having only a 1 point spread ranging from 2.25 to 3.25 (Table IV).

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<sup>5</sup>Ibid., p. 11.

TABLE IV  
GRADE POINT AVERAGE OF STUDENTS ENROLLED IN THE "METHODS"  
COURSE DURING THE SPRING SEMESTER, 1969



### Summary

This was a developmental study in which procedure and analysis were inextricably interwoven. The content and objectives of the Methods course and its two prerequisites were studied carefully along with two studies concerned with concepts and generalizations of Home Economics Education. Five concepts were selected as germane to this study. A one hundred and twenty-two item multiple-choice type objective test with five distractors was formulated and administered to 26 students enrolled in Student Teaching. The scores from this group of students were analyzed and those items which appeared to be too easy or too difficult were eliminated. An eighty item revised version of the pretest was administered to 44 students enrolled in the Methods course during the last third of the fall semester, 1968. The scores from this group were analyzed and the items which appeared to be either too difficult or too easy were eliminated. A 64 item second revision of the pretest was administered to 36 students enrolled in the Methods course during the spring semester, 1969, on the second day of class. These scores were analyzed to determine if for this group needless repetition does exist and for the discriminatory ability of each item.

The allegation of repetition seemed to be refuted, but individual student differences were revealed. Twenty-eight items showed minimum discriminatory ability, forty items showed some discriminatory ability, eight items showed no discriminatory ability and twelve items showed reverse discriminatory ability.

## CHAPTER IV

### SUMMARY AND CONCLUSIONS

The problem of this study was to develop a pretest for use with the course Methods of Teaching Home Economics as it is taught at Oklahoma State University. The study was divided into three general phases. First was determining the content of the "Methods" course and the two course prerequisite to it. A careful study of the syllabi, course outlines, textbooks and reading lists was made along with the two studies concerning concepts germane to Home Economics Education. For this study five concepts were selected:

- I. General Education Principles.
- II. The Role of the Teacher.
- III. Adolescent Behavior and Individual Differences.
- IV. Planning for Secondary Home Economics Programs.
- V. Evaluation.

Building items for use as a pretest was the second phase. It was decided to use a multiple-choice type item with five distractors each. The ease and objectivity of scoring out-weighed the difficulty in finding suitable distractors. It was felt that items could be formulated which would measure higher forms of cognitive processes as well as simple recall. Each item was written on a 5 x 8 index card for ease in arranging and checking. Members of the Home Economics Education staff checked each item for content validity and a person

outside the field of home economics checked for clarity and word usage.

The third phase of the problem was administering, analyzing and revising the pretest. A 122 item instrument was administered to 26 student teachers in the fall, 1968. On the basis of these scores items which appeared either too easy or too difficult were discarded. An eighty item revision of the pretest was administered to 44 students enrolled in "Methods" near the end of the fall semester, 1968. On the basis of the scores from this group the pretest was revised a second time, again discarding those items which appeared either too easy or too difficult. A 64 item revision of the pretest was administered to 36 students enrolled in "Methods" during the spring semester, 1969.

A non-statistical analysis of the scores was made to determine if for the group there was excessive repetition in the "Methods" course of previously taken courses. The scores from this group do not seem to reveal excessive repetition, but the scores do seem to reveal a wide variety of individual student differences.

Item analysis to determine the discriminatory ability of each item was computed. Twenty-eight items show at least minimum discriminatory ability, forty items show some discriminatory ability, eight items show no discriminatory ability and twelve items show reverse discriminatory ability.

### Conclusions

The objective of this study was accomplished. A pretest suitable for use with the "Methods" course could be devised. The underlying philosophy which prompted this study was not sustained in that there does not seem to be excessive repetition of previously taken courses

included in the "Methods" course. The scores from the test did, however, seem to reveal a wide variety of individual student differences.

Each group (faculty and/or students) who uses this instrument will be using it for a different purpose. The results of this test can be used in revising curriculum, in planning points of emphasis, in grouping students and in planning for individual instruction. Additionally, student interest may be stimulated when they are allowed to check their strengths and weaknesses. Instructors can use the results as an aid in determining individual and class needs.

#### Recommendations

It is recommended that the pretest be administered to students enrolled in the "Methods" course as a means of determining individual differences in students and to allow both the student and the instructor to assess the amount of knowledge concerning "Methods" the student brings to the course. It is further recommended that the pretest be given to a greater number of students and that after each testing the instrument be revised. It is felt that the pretest will need frequent revision in order that it be kept current with the needs and objectives of both student and instructor.



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VITA ~

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