

ART AS IT RELATES TO  
HOMEMAKING

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A THESIS

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We hereby recommend that the thesis prepared under  
our supervision by Martha Dee Thompson  
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## CHAPTER I

### I N T R O D U C T I O N

"The home economist can be a creative force in the classroom. No other academic area offers as much potential for artistic expression as does home economics." Thus Dommelen (7) has emphasized the importance of the art in homemaking. Homemaking teachers have the responsibility of teaching students to develop artistic principles in homemaking.

Dommelen (7) further stated that to develop any program without using the contributions in the related art department is the same as preparing an unfinished curriculum. Related arts are concerned with all areas of study in home economics; therefore, home economics departments should be staffed with teachers with training in the field of art in order to prevent weak programs.

Goldstein (13) declared that art is a part of the objects seen and used everyday. An outstanding need of the consumer is to gain an understanding of the principles fundamental to good taste.

Eilar (8) made three suggestions in building a related art program. First, the teacher should be conscious of class situations that afford opportunities to discuss and use related art principles. Second, the teacher should bring art principles forcibly to the minds of the students by good, positive teaching, and third, the teacher should collect and use materials which demonstrate art principles.

O'Donnell (25) suggested that art is an inner spring of creativity and is involved in home economics at all levels. The art of creativity is found in many places, in college, in family life, in childhood, and in adulthood.

Art in home economics is of special interest to many teachers of homemaking courses. The writer hopes to find by objective methods the relation of art attitudes and aptitudes to home economics.

The specific purposes of the study will be to:

- 1) determine interest differences in students after a year's work in the homemaking program;
- 2) compare various scores of high natural ability individuals and of low natural ability individuals; and to
- 3) determine artistic aptitude differences in students after a year's work in the homemaking program.

## TERMINOLOGY

Tests were used as media for determining the importance of art in homemaking; therefore, certain general terms need to be defined. Three important terms as used in this study are:

Art: the ability to create objects of beauty.

Aptitude: the person's ability or talent which can be developed through training. An aptitude test reveals an individual's ability to learn and to perform skills in the future. A person taking these tests later would probably score about the same according to the Student's Booklet of the Flanagan Aptitude Classification Tests (11).

Interest: preferences show an individual's liking for certain activities. Preferences help to identify promising occupations, but they must be supplemented with some ability.

## REVIEW OF LITERATURE

The review of literature is concerned with the examination of data related to the importance of art interest and art ability in home economics; measurement of art, both statistically and visually; artistic aptitude in home economics; evaluation of art in home economics; and the importance of developing art awareness in home economics.

Bonsett (2) stressed that art interest was aroused by arranging bulletin boards on art reproductions. Lettering was done by students who volunteered to help with the



bulletin board. Interest of the class was stimulated when students added the lettering. Activities of the students revealed noticeable artistic characteristics.

Meier (21) contended that a person usually shows an interest in doing work or activities requiring good eye-hand coordination very early in life. Individuals with artistic aptitude are usually particular and have interest and pride in doing things well.

Barton (1) pointed out that through art a child is given an opportunity for discovery as a capable, creative person. The pupil's growth through art may be expressed by the increased ability to think and plan independently, increased insight, understanding and tolerance of others' ideas and expressions, development of imaginative ways to express ideas, and continuous growth in attitudes and skills.

Bumpass (4) revealed from the data in comparing retarded children and regular classroom students that there was considerable similarity between the art abilities of this sample. Some of the regular classroom students produced art work below their specific age level.

Shipman (27) indicated that students showed ability in applying art principles. Students also gave evidence of some skill in selecting articles of beauty and good design after

study. Shipman further stated that practice was necessary in order to develop skills in using and applying art principles. This study brought out the fact that the students had more ability in recognizing statements about color, rhythm and texture than statements about balance.

Daude (6) explained that finger painting, a form of art, provided the child with an ability to express through art feelings that could not be spoken. This study further indicated that certain personality traits were developed.

Art cannot be measured statistically, according to True (30). Art is completely intangible and is never in the same state of existence as it was the minute before. But Graves (15) emphasized that a sense of design can be appraised, evaluated and tabulated by means of a test. A test developed by Graves was used in this study.

Brockman (3) stated that unity of design is important and that good taste is the instinctive recognition of "what goes with what"; the ability to discern with the eye new combinations. Some individuals are more sensitive to good combinations than others. Persons are helped to establish confidence through practice in selecting desirable combinations using design principles.

Authorities generally agreed that art was an important part of home economics. Art, as explained by Barton (1),

motivates and enriches the whole curriculum, stimulates the child's experience of creating, and helps improve the manner in which the pupil expresses feelings. By integrating creative art experiences into the homemaking plans, curriculum can be made more meaningful. Barton also pointed out that creativity through art activities may guide the child into making visual aid devices.

Goldstein (13) expressed the importance of art in home economics by pointing out that art is a part of the daily living. Art can help an individual to do more beautifully the simple, homely things of life as well as the unusual. Goldstein suggested that art can become a part of living and personality; individuals can learn to enjoy art in everything seen or selected.

True (30) contended that students should be artistically educated for their own enjoyment and for providing an environment suitable for family living. Such training is really needed today. The importance of art is further ascertained by True who stated that the arts play a major part in man's environment, house, and community. The arts, from this point of view, include not only the house but also clothing.

The study by Forst (12) on design decisions of women in later life revealed important group differences according to various types of training in college. Forst further

observed that importance should be given to these groups when planning design courses in different fields of studies. For art majors, social activity as well as self-expression and esthetic value should be stressed. Home economics should stress creativity emphasizing function and practical design. Art design should be emphasized to help prepare for life after college graduation even for women without training in home economics or art.

Kinsey's (17) study revealed that teaching units which include application of facts to life situations will in part help students use knowledge of color, design, and fabric in wardrobe selection. In the Kinsey study, great importance was given to identifying color due to the fact that students understood the meaning of the term hue.

Stryker (29) pointed out that through the study of art the individual gains a great deal of knowledge and understanding. Through experiences with art, the student also learns to recognize and appreciate art in his surroundings.

Haynie (16) recommended that every student have knowledge and principles in order to have a secure feeling in new art situations. Haynie further pointed out that principles of arrangement are used in all forms of art.

True (30) pointed out that one of the roles of art in home economics is for professional application. Students

should be given training in at least one art area so as to be able to use art in home situations or to develop it as a profession. Decoration of a home is one of the homemaking professions which uses art, an area including all sorts of designing: furniture design, and other work connected with interiors.

In summarizing the 1962 conference on art in home economics, O'Donnell (25) stated that those present at the conference were in agreement on the following four points:

- 1) Art has a proper place in home economics because home economics is partly art.
- 2) Art in home economics is a creative activity that will enrich an individual's life.
- 3) Art in home economics makes it possible for a student to create a product.
- 4) The aim of art in home economics is to develop art in creative living rather than to develop the fine arts.

Riley (26) implied that the teacher's job is to stimulate imagination and awareness as essentials to successful living. An appreciation of beauty wherever it is found should also be developed.

Some conclusions that may be drawn from the studies reviewed concerning art in home economics are as follows:

- 1) Art should play a part in an individual's everyday life.

- 2) A knowledge of art principles will help provide an environment suitable for family living.
- 3) Art cannot be measured statistically, but a sense of design can be appraised, evaluated, and tabulated by means of tests.
- 4) Artistic aptitude involves good eye-hand coordination.
- 5) Students should be trained in at least one art area so as to be able to use it in home-making.
- 6) Fine arts is not the aim of art in homemaking courses but creativity in art is needed for everyday living.

## CHAPTER II

### P R O C E D U R E

An investigation of art as related to home economics was conducted by the author by collecting data from 50 Homemaking II and Homemaking III students in high school. Students in Nocona High School, Nocona, Texas, Saint Jo High School, Saint Jo, Texas, and Prairie Valley High School, Route 3, Nocona, Texas, participated in the study during the school year 1967-1968. The students' mean age was 16.33, with a range from 15 through 18 years of age.

### I N S T R U M E N T S

Three specific instruments of measurement were used to determine art as related to home economics. The instruments were the Kuder Preference Record, Form CH, Flanagan Aptitude Classification Tests, and Graves' Design Judgment Test.

#### The Kuder Preference Record, Form CH

The Kuder Preference Record, Form CH consists of 504 items arranged under 10 broad headings. The 10 broad headings are: outdoor, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and

clerical. According to the classification of occupations in the Kuder Preference Record Administrator's Manual (18), the following interests are included: artistic, outdoor, mechanical, and social service. Since these four interests are involved in homemaking training, those were the interests checked on the Kuder Preference Record Test given to Home making II and Homemaking III students to determine artistic interest.

Definitions of specific interest tests used in this instrument are as follows:

- 1) Artistic interest means a person likes to do creative work involving the use of the hands. Creative work usually is work that has "eye appeal." This type of work involves design, color, and materials. Painters, sculptors, architects, dress designers, hair dressers, and interior decorators all do "artistic" work.
- 2) Outdoor interest means that an individual prefers work that is outside most of the time. According to the Kuder Preference Record Administrator's Manual (18) the outside-artistic includes such professions as landscape architect and floral designer.
- 3) Mechanical interest means a person likes to work with machines and tools of all sorts. Mechanical-artistic professions are such professions as artist, sculptor, teacher of art, teacher of home economics, designer such as industrial designer, toy designer, dressmaker, tailor, and upholsterer.
- 4) Social service interest indicates a person desires to help people. These professions are home demonstration agent, home economics expert and a miscellaneous teacher: knitting or painting instructor.



The Kuder Preference Record, Form CH was a self-scoring test. The scoring was accomplished by the students counting holes punched on the answer pad which indicated the preferences on each interest test. These punches, raw scores, were recorded on the individual student's profile sheet.

#### The Flanagan Aptitude Classification Tests

The Flanagan Aptitude Classification Test contains 19 skills for measuring an individual's natural aptitude. These 19 skills are essential in order to be a success in 37 occupational areas. The skills evaluated by the Flanagan Aptitude Classification Test are: 1) inspection; 2) mechanics; 3) tables; 4) reasoning; 5) vocabulary; 6) assembly; 7) judgment and comprehension; 8) components; 9) planning; 10) arithmetic; 11) ingenuity; 12) scales; 13) expression; 14) precision; 15) alertness; 16) coordination; 17) patterns; 18) coding; and 19) memory.

According to the Students' Booklet on the Flanagan Aptitude Classification Tests (11), to have aptitude in art, a person would need to do well in 1) inspection, 2) vocabulary, 3) assembly, 4) ingenuity, 5) coordination, 6) patterns, and 7) memory.

The author of this study had observed that students who did well in homemaking often did well in 1) mechanics, 2) precision, and 3) components (other tests included in the 19 Flanagan Aptitude Classification Tests). These three tests

were added to the other seven to determine the students' art aptitude in Homemaking II and Homemaking III.

Definitions of the specific aptitude tests are as follows:

- 1) Inspection is the ability to spot flaws or imperfections in articles quickly and accurately.
- 2) Vocabulary is the ability to select the right word in order to convey an idea.
- 3) Assembly is the ability to "see" how an object looks when put together according to instructions. The person can see the appearance of an object from many different parts.
- 4) Ingenuity is the creative skill a person possesses.
- 5) Coordination is the ability to use the hands and arms.
- 6) Patterns is the ability to reproduce simple pattern outlines in an accurate way. Part of the test required the ability to draw a pattern as it should look upside down.
- 7) Memory is the ability to remember codes and the ability to memorize that which is printed.
- 8) Mechanics is the ability to understand mechanical principles and to analyze mechanical movements.
- 9) Precision is the speed and accuracy in using one hand or both hands working together with small objects.
- 10) Components is the ability to select important parts of a whole.

The Flanagan Aptitude Classification Tests were machine graded. The individual test scores were reported by percentiles.

### Graves' Design Judgment Test

Graves' Design Judgment Test (11) contains 90 sets of two- and three-dimensional designs to be appraised by individuals. The test measures aptitude for appreciation or production of art or readiness for learning in the field of visual art. This test is self-administered and time was not limited. Most individuals finished the test in 20 to 30 minutes.

Raw scores on the Graves' Design Judgment Test were obtained from the number of items which were marked correctly according to the hand scoring key. The maximum score on the test was 90. Raw scores were used for comparison of the test and retest. The percentile equivalents of the scores were used in ranking of the natural aptitude percentiles of the Flanagan Aptitude Classification Tests.

### COLLECTION OF DATA

The scores on the Kuder Preference Record, Form CH and Flanagan Aptitude Classification Tests were obtained from the cumulative files in the counselor's office in the three schools. These two tests were administered by one individual, the counselor for the three schools.

In February, the Graves' Design Judgment Test was given to the students enrolled in Homemaking II and III in the

Nocona High School, Saint Jo High School, and Prairie Valley High School during their regular class periods by the home-making teachers in their respective schools. Before the students checked the Graves' Design Judgment Test, explanations were made that there was no time limit and the results of the scores would not affect the grades for homemaking courses.

In May, a retest was given on the Kuder Preference Record, Form CH and the Graves' Design Judgment Test. The retests were given in each of the three schools by the respective teachers.

Raw scores were used from the Kuder Preference Record, Form CH and Graves' Design Judgment Test for statistical analysis. The percentile score was used for analysis of the Flanagan Aptitude Classification Tests.

#### ANALYSIS OF DATA

Test and retest scores for each test, outdoor, artistic, mechanical, and social service, were compared on the Kuder Preference Record, Form CH.

- 1) Comparison of the test and retest for outdoor interest.
- 2) Comparison of the test and retest for artistic interest.

- 3) Comparison of the test and retest of the mechanical interest.
- 4) Comparison of the test and retest of the social service interest.

Each test was compared statistically by the use of the t-test and tabulated.

The data collected from Flanagan Aptitude Classification Tests were in the form of percentiles. The top 12 and the lower 12 scores were ranked and compared, and the tests were ranked with the students' Graves' Design Judgment Test percentiles. The comparison was summarized by the use of a simplified code. The scores above fiftieth percentile were give a plus (+); and scores below fiftieth percentile were given a minus (-). Data were tabulated for analysis. The rank percentiles on the Flanagan Aptitude Classification Tests were compared with the rank percentiles of the top 12 and the lower 12 students' scores on the Graves' Design Judgment Test.

The raw scores of the pre-test and retest of the Graves' Design Judgment Test were compared by the use of a t-test and tabulated. Polygons were also used to further show the comparison of the pre-test and retest.

## CHAPTER III

### ANALYSIS , FINDINGS , AND DISCUSSION

This study was designed to find the relationship between interest and aptitude in art as it is related to home economics. The students' interests, natural aptitude and art aptitude were measured on standardized forms of the Kuder Preference Record, Form CH (18), Flanagan Aptitude Classification Tests (9), and Graves' Design Judgment Test (11).

Respondents were enrolled in two different levels of high school home economics, Homemaking II and Homemaking III. For the purpose of analysis scores were grouped together as one group of home economics students. The discussion of this study will summarize the findings obtained from scores of the three instruments and comparisons of various scores.

#### KUDER PREFERENCE RECORD, FORM CH

To provide a means of achieving the first purpose, that of determining interest differences after a year's work in home economics, data from the Kuder Preference Record, Form CH were used in determining the difference in interest as it relates to art.

This test consisted of 10 broad headings systematically arranged to discover the students' preferences. The test revealed interests of students as an indication of suitable vocations.

Pupil scores in each of four interest areas of the Kuder Preference Record, Form CH were calculated by the use of a t-test. The findings of the t-test were tabulated and are shown in Table I.

Table I reveals that the pupils' interests--outdoor, mechanical, artistic, and social service--were non significant at the .05 level. Analysis of differences between the test and retest indicated that the interests of the students did not change significantly after a semester's study in homemaking.

#### FLANAGAN APTITUDE CLASSIFICATION TESTS

Data from the Flanagan Aptitude Classification Tests were used as a basis for achieving the second purpose, that of comparing various scores of high natural ability individuals and various scores of low natural ability individuals. Nineteen areas for measurement of natural aptitude are included in this test and percentiles from 10 of the areas were used from the tests: 1) inspection, 2) vocabulary, 3) assembly, 4) ingenuity, 5) coordination, 6) patterns, 7) memory, 8) mechanics, 9) precision, and 10) components.

TABLE I  
COMPARISON OF RAW SCORES OF 50 HOMEMAKING STUDENTS ON  
KUDER PREFERENCE RECORD, FORM CH TEST  
AND RETEST

| Factor         | Test Comparisons                                 | t-test<br>Score | d/f | Level of<br>Significance |
|----------------|--------------------------------------------------|-----------------|-----|--------------------------|
| Outdoor        | Test and retest<br>on<br>Outdoor Interest        | 0.375           | 98  | n.s.                     |
| Mechanical     | Test and retest<br>on<br>Mechanical Interest     | -1.138          | 98  | n.s.                     |
| Artistic       | Test and retest<br>on<br>Artistic Interest       | -0.179          | 98  | n.s.                     |
| Social Service | Test and retest<br>on<br>Social Service Interest | 0.762           | 98  | n.s.                     |

n.s. non-significant



The percentile scores of 24 students were ranked for comparison. The ranking method permitted a comparison of the two groups, the 12 students ranking highest above the fiftieth percentile and the 12 students ranking the lowest below the fiftieth percentile.

Findings from the rank comparisons in Figure I indicated that students who had above the fiftieth percentile on the 10 natural aptitude tests of the Flanagan Aptitude Classification Tests showed a very high aptitude for natural artistic ability in nine of the tests, inspection, vocabulary, assembly, ingenuity, coordination, patterns, memory, mechanics and components. The same number of students in this group ranked above and below the fiftieth percentile of precision.

In Figure 2 the ranking of students below the fiftieth percentile on the 10 natural aptitude tests of the Flanagan Aptitude Classification Tests are shown. These lower ranking students showed a very low aptitude for natural artistic ability. Students below the fiftieth percentile ranked low in seven of the 10 tests; inspection, assembly, ingenuity, patterns, mechanics, precision, and components. The same number of students in this group ranked above and below the fiftieth percentile on vocabulary and memory. Eleven of these students ranked high on coordination, indicating good use of

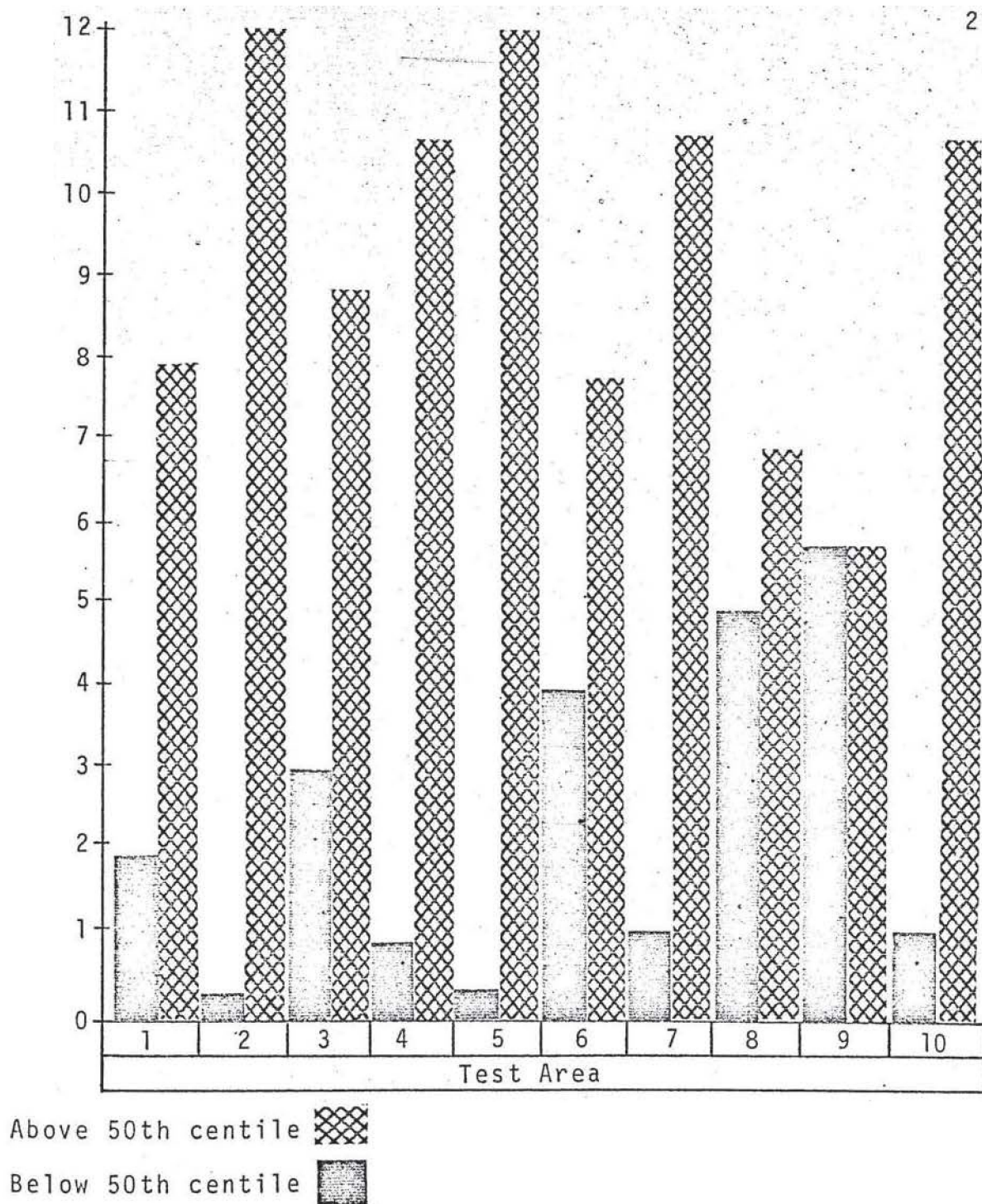


Figure 1

Percentage of 12 Top Ranking Students with Percentile  
Ranks Above or Below the Fiftieth Percentile Rank  
in 10 Areas on the Flanagan Aptitude  
Classification Tests

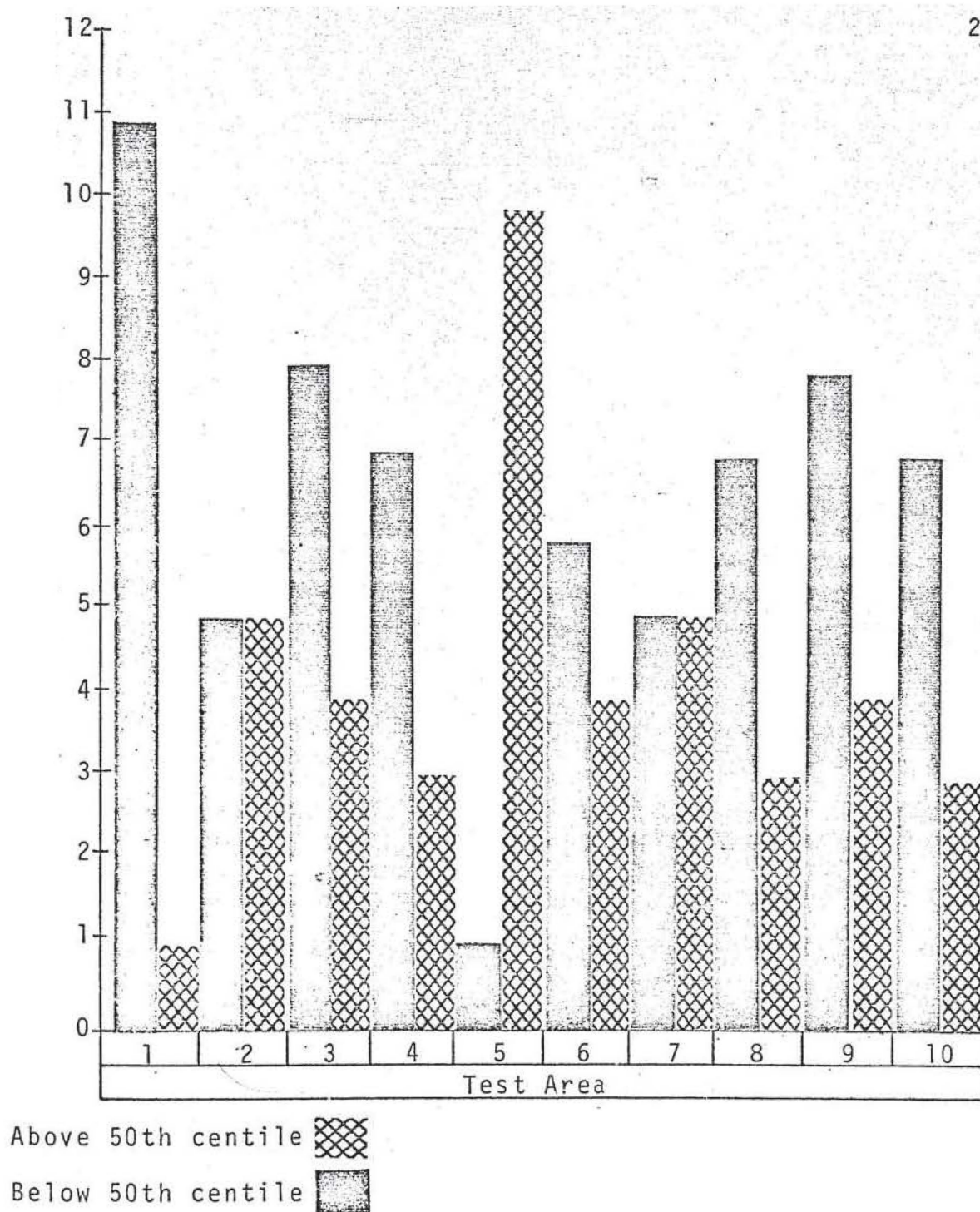


Figure 2

Percentage of 12 Low Ranking Students with Percentile  
Ranks Above or Below the Fiftieth Percentile Rank  
in 10 Areas on the Flanagan Aptitude  
Classification Tests



hands and arms. This finding indicates that these students ranking below the fiftieth percentile could do well artistically when hands and arms are involved.

The natural aptitude of the top 12 students on the Flanagan Aptitude Classification Tests were observed by ranking with the Graves' Design Judgment Test percentiles. The findings indicated that these students ranking high on Flanagan Aptitude Classification Tests also ranked high on Graves' Design Judgment Test. The findings further indicated that high natural aptitude was important in students' artistic ability (Tables II, IV, VI, VIII, X, XII, XIV, XVI, XVIII, and XX).

Students below the fiftieth percentile on the Flanagan Aptitude Classification Tests were also ranked and observed with the students below the fiftieth percentile on the Graves' Design Judgment Test. The findings on the ranks of these two tests after observation indicated that these students were low in all but one of the natural aptitude tests revealing low aptitude for artistic ability (Tables III, V, VII, IX, XI, XIII, XV, XVII, XIX, and XXI).

#### GRAVES' DESIGN JUDGMENT TEST

The third purpose, that of determining the difference in artistic aptitude of students after a semester's work in home economics, was achieved through data from the Graves'

TABLE II  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA I WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area I | Design Judgment Test |
|----------------|-----------------------------------------------|----------------------|
| 1              | +                                             | +                    |
| 2              | +                                             | +                    |
| 14             | +                                             | +                    |
| 26             | -                                             | +                    |
| 27             | +                                             | +                    |
| 32             | -                                             | +                    |
| 7              | +                                             | -                    |
| 8              | +                                             | +                    |
| 48             | -                                             | -                    |
| 42             | +                                             | +                    |
| 9              | +                                             | -                    |
| 3              | -                                             | +                    |

Area I--Inspection Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE III  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA I WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area I | Design Judgment Test |
|----------------|-----------------------------------------------|----------------------|
| 15             | +                                             | +                    |
| 19             | -                                             | -                    |
| 43             | -                                             | +                    |
| 18             | -                                             | +                    |
| 45             | -                                             | +                    |
| 47             | -                                             | -                    |
| 20             | -                                             | -                    |
| 17             | -                                             | +                    |
| 40             | -                                             | -                    |
| 35             | -                                             | -                    |
| 23             | -                                             | +                    |
| 22             | -                                             | -                    |

Area I--Inspection Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE IV  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA II WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area II | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 1              | +                                              | +                    |
| 2              | +                                              | +                    |
| 14             | +                                              | +                    |
| 26             | +                                              | +                    |
| 27             | +                                              | +                    |
| 32             | +                                              | +                    |
| 7              | +                                              | -                    |
| 8              | +                                              | +                    |
| 48             | +                                              | -                    |
| 42             | +                                              | +                    |
| 9              | +                                              | -                    |
| 3              | +                                              | +                    |

Area II--Vocabulary Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE V  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA II WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area II | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 15             | +                                              | +                    |
| 19             | -                                              | -                    |
| 43             | +                                              | +                    |
| 18             | -                                              | +                    |
| 45             | -                                              | +                    |
| 47             | +                                              | -                    |
| 20             | +                                              | -                    |
| 17             | -                                              | +                    |
| 40             | -                                              | -                    |
| 35             | -                                              | -                    |
| 23             | +                                              | +                    |
| 22             | -                                              | -                    |

Area II--Vocabulary Aptitude  
+ = Above 50th centile  
- = Below 50th centile



TABLE VI  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA III WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area III | Design Judgment Test |
|----------------|-------------------------------------------------|----------------------|
| 1              | +                                               | +                    |
| 2              | +                                               | +                    |
| 14             | +                                               | +                    |
| 26             | -                                               | +                    |
| 27             | +                                               | +                    |
| 32             | -                                               | +                    |
| 7              | +                                               | -                    |
| 8              | +                                               | +                    |
| 48             | -                                               | -                    |
| 42             | +                                               | +                    |
| 9              | +                                               | -                    |
| 3              | +                                               | +                    |

Area III--Assembly Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE VII  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA III WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area III | Design Judgment Test |
|----------------|-------------------------------------------------|----------------------|
| 15             | -                                               | +                    |
| 19             | -                                               | -                    |
| 43             | +                                               | +                    |
| 18             | -                                               | +                    |
| 45             | -                                               | +                    |
| 47             | -                                               | -                    |
| 20             | +                                               | -                    |
| 17             | -                                               | +                    |
| 40             | -                                               | -                    |
| 35             | -                                               | -                    |
| 23             | +                                               | +                    |
| 22             | -                                               | -                    |

Area III--Assembly Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE VIII  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA IV WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area IV | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 1              | +                                              | +                    |
| 2              | +                                              | +                    |
| 14             | +                                              | +                    |
| 26             | +                                              | +                    |
| 27             | +                                              | +                    |
| 32             | +                                              | +                    |
| 7              | +                                              | -                    |
| 8              | +                                              | +                    |
| 48             | +                                              | -                    |
| 42             | +                                              | +                    |
| 9              | -                                              | -                    |
| 3              | +                                              | +                    |

Area IV--Ingenuity Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE IX  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA IV WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area IV | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 15             | +                                              | +                    |
| 19             | -                                              | -                    |
| 43             | -                                              | +                    |
| 18             | -                                              | +                    |
| 45             | +                                              | +                    |
| 47             | -                                              | -                    |
| 20             | +                                              | -                    |
| 17             | -                                              | +                    |
| 40             | -                                              | -                    |
| 35             | -                                              | -                    |
| 23             | -                                              | +                    |
| 22             | -                                              | -                    |

Area IV--Ingenuity Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE X  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA V WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student<br>Number | Flanagan Aptitude<br>Classification Tests<br>Area V | Design Judgment<br>Test |
|-------------------|-----------------------------------------------------|-------------------------|
| 1                 | +                                                   | +                       |
| 2                 | +                                                   | +                       |
| 14                | +                                                   | +                       |
| 26                | +                                                   | +                       |
| 27                | +                                                   | +                       |
| 32                | +                                                   | +                       |
| 7                 | +                                                   | -                       |
| 8                 | +                                                   | +                       |
| 48                | +                                                   | -                       |
| 42                | +                                                   | +                       |
| 9                 | +                                                   | -                       |
| 3                 | +                                                   | +                       |

Area V--Coordination Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE XI  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA V WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests<br>Area V | Design Judgment Test |
|----------------|--------------------------------------------------|----------------------|
| 15             | +                                                | +                    |
| 19             | +                                                | -                    |
| 43             | +                                                | +                    |
| 18             | +                                                | +                    |
| 45             | +                                                | +                    |
| 47             | +                                                | -                    |
| 20             | +                                                | -                    |
| 17             | +                                                | +                    |
| 40             | -                                                | -                    |
| 35             | -                                                | -                    |
| 23             | +                                                | +                    |
| 22             | +                                                | -                    |

Area V--Coordination Aptitude

+ = Above 50th centile

- = Below 50th centile

TABLE XII

COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
 HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
 AREA VI WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student<br>Number | Flanagan Aptitude<br>Classification Tests<br>Area VI | Design Judgment<br>Test |
|-------------------|------------------------------------------------------|-------------------------|
| 1                 | +                                                    | +                       |
| 2                 | +                                                    | +                       |
| 14                | +                                                    | +                       |
| 26                | +                                                    | +                       |
| 27                | -                                                    | +                       |
| 32                | +                                                    | +                       |
| 7                 | +                                                    | -                       |
| 8                 | -                                                    | +                       |
| 48                | +                                                    | -                       |
| 42                | -                                                    | +                       |
| 9                 | -                                                    | -                       |
| 3                 | +                                                    | +                       |

Area VI--Patterns Aptitude

+ = Above 50th centile

- = Below 50th centile



TABLE XIII  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA VI WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area VI | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 15             | -                                              | +                    |
| 19             | +                                              | -                    |
| 43             | -                                              | +                    |
| 18             | +                                              | +                    |
| 45             | -                                              | +                    |
| 47             | -                                              | -                    |
| 20             | -                                              | -                    |
| 17             | +                                              | +                    |
| 40             | -                                              | -                    |
| 35             | +                                              | -                    |
| 23             | -                                              | +                    |
| 22             | -                                              | -                    |

Area VI--Patterns Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE XIV  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA VII WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests<br>Area VII | Design Judgment Test |
|----------------|----------------------------------------------------|----------------------|
| 1              | +                                                  | +                    |
| 2              | +                                                  | +                    |
| 14             | +                                                  | +                    |
| 26             | +                                                  | +                    |
| 27             | +                                                  | +                    |
| 32             | +                                                  | +                    |
| 7              | -                                                  | -                    |
| 8              | +                                                  | +                    |
| 48             | +                                                  | -                    |
| 42             | +                                                  | +                    |
| 9              | +                                                  | -                    |
| 3              | +                                                  | +                    |

Area VII--Memory Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE XV  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA VII WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area VII | Design Judgment Test |
|----------------|-------------------------------------------------|----------------------|
| 15             | +                                               | +                    |
| 19             | +                                               | -                    |
| 43             | -                                               | +                    |
| 18             | -                                               | +                    |
| 45             | +                                               | +                    |
| 47             | -                                               | -                    |
| 20             | -                                               | -                    |
| 17             | -                                               | +                    |
| 40             | -                                               | -                    |
| 35             | -                                               | -                    |
| 23             | -                                               | +                    |
| 22             | -                                               | -                    |

Area VII--Memory Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE XVI  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA VIII WITH PERCENTILE RANKS FOR GRAVES  
DESIGN JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area VIII | Design Judgment Test |
|----------------|--------------------------------------------------|----------------------|
| 1              | +                                                | +                    |
| 2              | +                                                | +                    |
| 14             | -                                                | +                    |
| 26             | +                                                | +                    |
| 27             | -                                                | +                    |
| 32             | +                                                | +                    |
| 7              | -                                                | -                    |
| 8              | +                                                | +                    |
| 48             | +                                                | -                    |
| 42             | -                                                | +                    |
| 9              | -                                                | -                    |
| 3              | +                                                | +                    |

Area VIII--Mechanics Aptitude

+ = Above 50th centile

- = Below 50th centile

TABLE XVII  
 COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
 LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
 AREA VIII WITH PERCENTILE RANKS FOR GRAVES  
DESIGN JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area VIII | Design Judgment Test |
|----------------|--------------------------------------------------|----------------------|
| 15             | +                                                | +                    |
| 19             | +                                                | -                    |
| 43             | -                                                | +                    |
| 18             | -                                                | +                    |
| 45             | +                                                | +                    |
| 47             | -                                                | -                    |
| 20             | -                                                | -                    |
| 17             | -                                                | +                    |
| 40             | -                                                | -                    |
| 35             | -                                                | -                    |
| 23             | -                                                | +                    |
| 22             | -                                                | -                    |

Area VIII--Mechanics Aptitude  
 + = Above 50th centile  
 - = Below 50th centile

TABLE XVIII  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA IX WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area IX | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 1              | -                                              | +                    |
| 2              | -                                              | +                    |
| 14             | -                                              | +                    |
| 26             | +                                              | +                    |
| 27             | +                                              | +                    |
| 32             | +                                              | +                    |
| 7              | +                                              | -                    |
| 8              | -                                              | +                    |
| 48             | +                                              | -                    |
| 42             | -                                              | +                    |
| 9              | +                                              | -                    |
| 3              | -                                              | +                    |

Area IX--Precision Aptitude  
+ = Above 50th centile  
- = Below 50th centile

TABLE XIX  
 COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
 LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
 AREA IX WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area IX | Design Judgment Test |
|----------------|------------------------------------------------|----------------------|
| 15             | -                                              | +                    |
| 19             | -                                              | -                    |
| 43             | -                                              | +                    |
| 18             | +                                              | +                    |
| 45             | -                                              | +                    |
| 47             | +                                              | -                    |
| 20             | +                                              | -                    |
| 17             | -                                              | +                    |
| 40             | -                                              | -                    |
| 35             | -                                              | -                    |
| 23             | -                                              | +                    |
| 22             | +                                              | -                    |

Area IX--Precision Aptitude  
 + = Above 50th centile  
 - = Below 50th centile

TABLE XX  
 COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
 HIGHEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
 AREA X WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area X | Design Judgment Test |
|----------------|-----------------------------------------------|----------------------|
| 1              | +                                             | +                    |
| 2              | +                                             | +                    |
| 14             | +                                             | +                    |
| 26             | +                                             | +                    |
| 27             | -                                             | +                    |
| 32             | +                                             | +                    |
| 7              | +                                             | -                    |
| 8              | +                                             | +                    |
| 48             | +                                             | -                    |
| 42             | +                                             | +                    |
| 9              | +                                             | -                    |
| 3              | +                                             | +                    |

Area X--Components Aptitude  
 + = Above 50th centile  
 - = Below 50th centile



TABLE XXI  
COMPARISON OF PERCENTILE RANKS OF THE 12 STUDENTS RANKING  
LOWEST ON FLANAGAN APTITUDE CLASSIFICATION TESTS,  
AREA X WITH PERCENTILE RANKS FOR GRAVES DESIGN  
JUDGMENT TEST

| Student Number | Flanagan Aptitude Classification Tests Area X | Design Judgment Test |
|----------------|-----------------------------------------------|----------------------|
| 15             | -                                             | +                    |
| 19             | -                                             | -                    |
| 43             | -                                             | +                    |
| 18             | -                                             | +                    |
| 45             | -                                             | +                    |
| 47             | +                                             | -                    |
| 20             | -                                             | -                    |
| 17             | +                                             | +                    |
| 40             | -                                             | -                    |
| 35             | +                                             | -                    |
| 23             | -                                             | +                    |
| 22             | -                                             | -                    |

Area X--Components Aptitude  
+ = Above 50th centile  
- = Below 50th centile

Design Judgment Test. This test contained two and three dimensional designs for measurement of student's aptitude for appreciation or production of art, and readiness for learning in the field of visual art.

A t-test was used as the method for calculating the data on this test. This method permitted a comparison of the differences in the students' scores on the pre-test and retest after having home economics.

The artistic ability according to the findings of the pre-test and retest on the Graves' Design Judgment Test indicated that artistic aptitude was significant at .05 and .01 levels with the retest score being significantly higher (Table XXII). This finding indicated that art ability could be improved after training.

According to the results of the statistical analysis of the pre-test and retest scores on the Graves' Design Judgment Test, the ability of students to judge and appreciate art improved after a semester of homemaking. This improvement after study showed that students had more ability in judging through knowledge of design principles.

Figure 3 further presents a picture which substantiates the statistical findings of the t-test. The shaded area of the pre-test polygon shows that students had more low scores

TABLE XXII  
COMPARISON OF STUDENTS' RAW SCORES ON PRE-TEST AND  
RETEST ON GRAVES DESIGN JUDGMENT TEST

| Factor                     | Test Comparisons          | t-test<br>Score | d/f | Level of<br>Significance |
|----------------------------|---------------------------|-----------------|-----|--------------------------|
| Design<br>Judgment<br>Test | Pre-test<br>and<br>retest | -5.256          | 98  | .05<br>.01               |

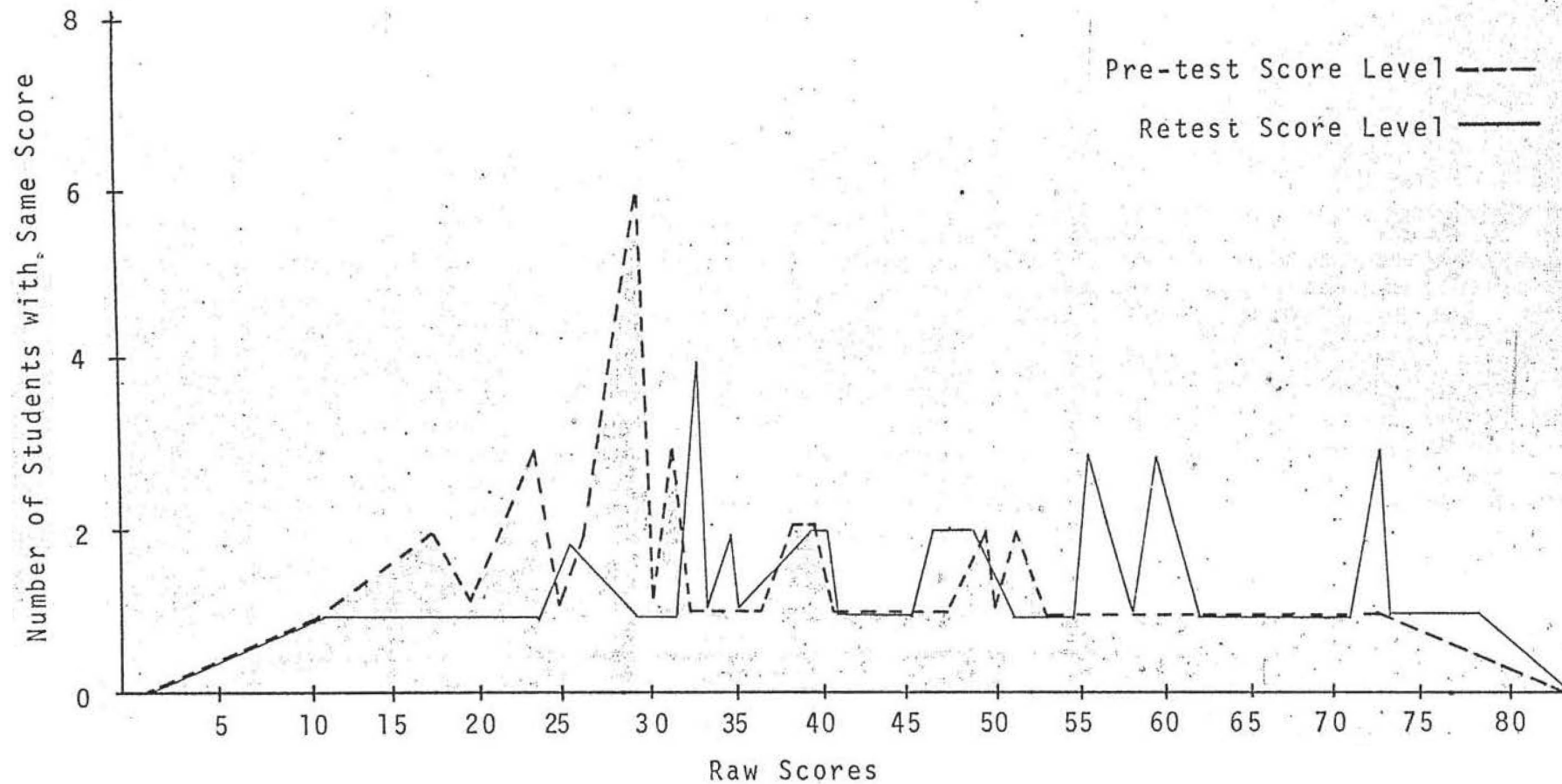


Figure 3  
 Polygons Comparing Pre-test and Retest of Graves' Design  
Judgment Test for 50 Homemaking Students

on the Graves' Design Judgment Test and a very small number of high scores before a year's work in home economics. The heavy line indicating the retest polygon shows that there was an increase of high scores and a decrease of low scores after a year's work in home economics.

The results of all analyses indicated that this sample of students' interests was not changed. The findings revealed that home economics training apparently affected the student's art aptitude in a positive direction.

### CASE STUDIES

Two outstanding individual cases were noticed in this study. Case I showed a change from an artistic interest to clerical interest on the Kuder Preference Record Test. This change was probably due to being a typing winner. The artistic scores were high on the pre-test and retest on the Graves' Design Judgment Test. If the Kuder Preference Record Test had been given as a retest, the artistic interest probably would have returned to a high score after the student placed fourth in a nation wide table setting contest.

Case II had a score below the fiftieth percentile on the Graves' Design Judgment Test pre-test, but the artistic ability of the student increased to a high score above the fiftieth percentile. This student found that artistic

ability helped in making fabric flowers which involved design principles. A number of fabric flower arrangements were made by this student before the retest was given.

The overall picture revealed that a high natural ability is important for success in artistic endeavors. The tests on the Flanagan Aptitude Classification Tests which indicated a pronounced influence on artistic aptitude were first, vocabulary and coordination, and second, ingenuity and memory.

## CHAPTER IV

### S U M M A R Y   A N D   C O N C L U S I O N S

The purpose of this study was to determine relationships between interest and natural aptitudes in various capacities of art as related to homemaking in high school home economics programs. Data were obtained from 50 students enrolled in Homemaking II and III in Nocona High School, Nocona, Texas, Saint Jo High School, Saint Jo, Texas, and Prairie Valley High School, Route 3, Nocona, Texas during the academic year of 1967-1968. The students' interest, natural aptitude and art aptitude were measured on standardized test forms of Kuder Preference Record, Form CH (18), Flanagan Aptitude Classification Tests (9), and Graves' Design Judgment Test (11).

Data from the Kuder Preference Record, Form CH (18) test were used as a basis for determining students' interest preferences with related art areas. A test and a retest was used to determine if a change in students' interest was made after a year's work in homemaking. An analysis of the differences between the test and retest was made. This comparison revealed that interest was not changed after a year's work in home economics.

Data from Flanagan Aptitude Classification Tests (9) were used as a basis for determining the natural artistic ability of the students as related to art in home economics. The test percentile scores were collected from the files of the counselor. The 12 highest and the 12 lowest scores were ranked and compared. Scores for the Flanagan Aptitude Classification Tests were also ranked with percentile scores of the Graves' Design Judgment Test.

The findings indicated that high natural ability was needed to succeed in artistic ability; however, artistic ability of students with low natural ability indicated a noticeable, non-significant increase. Results showed that four natural aptitude tests, vocabulary, coordination, ingenuity and memory, on the Flanagan Aptitude Classification Tests showed a pronounced influence upon artistic ability.

Data from the Graves' Design Judgment Test (11) were used to determine the artistic differences of the students after a year's work in home economics. The differences were treated to a t-test for significance. Statistical results indicated that this sample of students improved in artistic aptitude after a semester in home economics.

This study had a small number of girls in the sample; therefore; results give only an indication of the actual relationship between art and areas related to home economics.



The art test limited this study to design principles. The use of a broader art test with Graves' Design Judgment Test would probably give a more valid picture of how art relates to home economics.

In view of the results and findings in this study, the author makes the following recommendations:

- 1) Further study needs to be made in the field of art as it relates to home economics including a larger sample.
- 2) Art principles should be integrated into all phases of home economics.
- 3) The teachers of home economics should provide the climate for development of art in home economics.
- 4) An art awareness and judgment should be developed in home economics class study.
- 5) Home economics majors should have a special, technical required art course directed toward creativity in all areas of homemaking.
- 6) Studies are recommended in various phases of home economics, clothing, child care, foods, home care of the sick, family living, consumer education and housing, as they relate to art.
- 7) Art creativity should be developed in the curriculum of home economics.

The author concluded from results of all statistical analyses that for this sample of students, interest apparently was not changed after a year's work in home economics. Results of this study revealed that high natural ability was

needed to succeed in artistic ability. Four natural abilities--vocabulary, coordination, ingenuity, and memory--indicated a relationship to artistic ability. Art abilities of the students, however, were influenced by a year's study in home economics indicating that art is related to home economics.

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