A STUDY OF TWO METHODS OF TEACHING THE VISUAL ELEMENT, VALUE, AS SEEN IN THE CREATIVE WORKS OF CHILDREN IN THE FOURTH, FIFTH, AND SIXTH GRADES

APPROVED:

Richard H. Laing
Major Professor

Paul J. Smith
Minor Professor

Mack Vaughan
Director of the Department of Art

Robert B. Toulouse
Dean of the Graduate School

A STUDY OF TWO METHODS OF TEACHING THE VISUAL ELEMENT VALUE AS SEEN IN THE CREATIVE WORKS OF CHILDREN IN THE FOURTH, FIFTH, AND SIXTH GRADES

THESIS

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

By

Carolyn L. Hoffman, B. A.

Denton, Texas

August, 1967

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

CHAPTER I

INTRODUCTION

Understanding concepts of the visual elements increases growth of the perceptiveness and the visual knowledge of the participants in an art classroom. Scope of the art program may be as inclusive as the teacher determines to make it.

Subject matter used for art experiences within the classroom comes from the presentation of new visual aspects of an environment, for instance the designs seen on bodies of microscopic organisms as well as subject matter of a more familiar nature. Aspects of the school and non-school environments are used freely and personally by the students.

The art class may provide a unique unfolding of growth through the plastic media of the visual arts. The art class places personal experiences of non-conformity within a realm of group dynamics. The class also permits the assimilation of intuitive and perceptual growth through the use of subjective thinking.

A teacher's understanding of that which is visually appealing should be demonstrated and recognized in the art classroom, and leads to an increased awareness of the provisions and possibilities of a visual environment. This new awareness comes about through seeing because 'seeing' is interpretation of an environment [illegible] by the senses.

Formal learning of art concepts requires students to have repeated encounters with the art elements. The more opportunity a student has to visualize, verbalize, and work on studio art problems, the more effective sequential or structured learning will be. In this study the art element, value, was appropriate for the experiment because it exists in some degree in all works of visual art. Some scheme for the teaching of the art elements had to be developed in order to increase the developmental approach. A sequence of events that would lead to better structuring of art experience in the elementary school is necessary. New techniques in motivation need to be developed and new teaching methods need to be attempted and evaluated.

Statement of the Problem

The purpose of the study was to investigate the effectiveness of a method of motivational enrichment that may be applied to a structured art program when teaching the visual element, value, to fourth, fifth, and sixth grade children. The problem was to compare the data (art works) gathered from a population of intermediate subjects who received motivational enrichment in one of two methods. The methods explored the use of short phases in a sequence of art experiences of a structured art program.

Background of the Study

An investigation of literature of art education and educational psychology showed that although much study has been

conducted in the area of motivation, 'further experiments on art motivation . . . which may influence the processes of creation and appreciation and the people involved in them' (2, pp. 82-83) need to be made. The problem discussed in this paper is related to studies of Dubin (5), Deperud (11), and McVitty (9), who tested various applications of motivation and reinforcement.

Dubin (5) concluded in a study of pre-school children, who were two to four years old, that reinforcement after painting increased the appearance of developmental characteristics in graphic representation.

Deperud (11) made "an experimental study of visual elements, selected art instruction method, and drawing development of the fifth-grade level" (11, p. 3). Three methods of teaching, which were Teacher-centered, Cooperative, and Child-centered, were used. The teacher-centered method involved presentation of the visual elements in the form of lecture and demonstration of visual elements before drawing. During this phase, the teacher avoided asking children's opinions or sharing experiences. There was a minimum of pupil-teacher interaction in planning a learning situation.

The child-centered method assumed that the art work of children originates quite spontaneously with them. Greater emphasis was placed upon factors of maturation in drawing development than upon factors of situation. No instruction on the visual elements was given. Significant change was

seen in the drawing of Teacher-centered and Cooperative Methods. An analysis of variance suggested that the teacher-centered method benefits high I. Q. and female groups, whereas none of the tested methods suggested benefit to male groups.

Another investigation of methods of motivation was made by McVitty (9) with fifth-grade children. He found that the most significant method of motivation for developmental growth in drawing concerned pupil-teacher cooperation and participation. Teacher-cooperation and participation were by means of strong teacher verbalizing and field trips. Other motivational stimuli were recording, play-acting, and films. Some of the "mechanical devices" used were not designed as art motivation; they would "fall in a 'just average' category" (9, p. 82).

McVitty's and Neperud's investigations presented two acceptable means for presenting motivation to fifth grade students. Both studies related to the motivation prior to art work done by the students. Dubin's study related reinforcement to completed paintings made by pre-school children.

There is an indication that more study needs to be concerned with student achievement of certain art concepts in a structured art program as related to the application of strong motivation. All studies and experimentation have applied strong motivation before or after subtasks or phases. An experimental study is needed which will attempt to determine

the reliability of placing motivation within a subtask of the structure of a program that teaches concepts of the design element value.

Definition of Terms

Gagné (7) states the need for motivation and reinforcement of concepts which allow individuals to respond to things or events as a class (7, p. 126). He stated that the

> . . . broad conception of the motivational problem includes a consideration of the motives that make the student want to seek knowledge, to utilize his talents, to desire self-fulfillment as a human being, to relate to other people in a satisfying manner, and to become an effective member of society (7, p. 207).

be suggested that an achievement of subtasks, which could be phases of a concept or concepts, could be motivational challenge. Careful planning of a whole instructional sequence for any topic must be made in order that a communication of achievement may occur prior to learning (7, p. 213). To strengthen a newly learned capability, reinforcement of the concept is needed (7, pp. 224-227).

Visual study is strong motivational enrichment. It was a process that could be used to increase both the quality and quantity of a creative activity which was limited to the aspect of the design element, value. Olson defined enrichment as "a process that tries to meet the problem of individual differences in the offerings in the subject for those who can profit from such efforts" (12, p. 75). (Photographic transparencies were carefully selected to provide enrichment

for the learner's visual knowledge of value and were used as motivational enrichment in this study for teaching the concepts of light and dark. The transparencies and teacher-contrived questions and statements were used in three units of art experience.)

Depth study is the creative experience which serves as reinforcement to the observations which were made in the visual study. In addition to the creative experience, the depth study includes direct motivation for the experience as well as the evaluation. Depth refers to those things that, when discovered through creative experience, may deepen the students' understandings of the concepts and knowledge of value (dark and light) so there will evolve a stronger motivation to undertake new tasks. Beittel and Mattil (3) used the term "depth" in a study to designate a teaching program that allows a sustained long term concentration in one specific area of study. It includes a variety within the specific area, but the different activities are such that they permit an easy transition from one problem to another. "This approach stimulates both sequential and cumulative learning" (3, p. 70). The term "depth" in this study refers to the same type of concentrated study.

(Three media were used in the creative experiences to increase understanding of the concepts of the design element value.)

Limitations of the Study

Three creative works were collected from each subject who completed that number of pieces. A sampling was made and evaluated by individuals in the art field and outside the art field. Foreknowledge of the experimental study was provided a group of the evaluators. Data gathered from all evaluators were given statistical treatment according to the Fisher's t for analysis of variance, by the North Texas State University Computer Center.

Basic Assumption

The assumption was that evaluations of art works (results of the creative experiences) would be data used for statistical treatment when determining growth made by the subjects.

Procedure for Collecting and Treating the Data

The experimental study was made in the laboratory school at North Texas State University during the summer months of June and July, 1966. The summer session is considered a regular session for credit. There was a population of seventy students of intermediate grades. Except for even distribution of boys and girls, random grouping of the subjects was made. There was one fourth, one fifth, and one sixth grade class. Method A group had a visual study prior to the depth study. Method B group had a pre-visual study: depth study which was a phase of the creative experience before the visual study.

Five weeks were used for the collection of data. Each grade had two fifty-minute art classes per week, as shown in Table I. Occasional interruptions resulted from such things

TABLE I

SCHEDULE OF INTERMEDIATE ART CLASSES USED FOR STUDY

Class	Day	Time
4	T T	9:40-10:30
5	W F	10:40-11:30
6	T T	10:40-11:30

as the physical environment and an overlapping of classes. Such interruptions were kept to a minimum whenever possible. Absenteeism that frequently occurred as a result of the vacation season was not controlled.

Twenty-three photographic transparencies for the visual study were chosen on the basis of value content and subject matter. Photographs were made of black and white and of monochromatic color plates, such as Figure 1 on page 9.

Value content of the transparencies emphasized (1) high and low contrasts of dark and light, (2) illusions of depth made by values (darks and lights), and (3) values of color. Thirty-five millimeter color film was used for photographing the reproductions. The resulting black and white transparencies tended to have shades and tints of green or tints of

red. It was agreed, after consultation with competent art educators, that the deviations did not obstruct the value content.

Fig. 1—Black and white reproduction, emphasizing value and subject matter.

Subject matter of the transparencies was most frequently non-objective. The content of non-objective subject matter is form (shape), space, line, color, and value in dependent and independent relationships to each other. Non-objective subject matter was used to facilitate easier concentration on value and the relationship of value to form and space. The transparencies included reproduction of microscopic photographs (14), and experimental photographs (8, p. 54; 13), pen and ink drawings (10, pp. 55, 159), woodblock prints (4,

pp. 135, 141), a charcoal drawing (10, p. 13), and a painting (1, p. 71).

Subjects received the visual study in a separate school room from the depth study. Tape recordings were made of the subjects' discussions and the teacher's presentations of the visual study. The same teacher-contrived questions and statements were used with subjects of both Method A and Method B.

Three media were used by the subjects as they worked out understandings of value in the depth studies. The media used were crayon and ink, drawing pencil or charcoal pencil, and tempera paint.

Each study had several phases, including direct motivation. Direct motivation was the assignment in conjunction with interest-gathering statements and actions made by the teacher. Occasionally Method B group was involved with the pre-visual study depth study for which Method A group was receiving motivation.

Limitations of the media furnished immediate experience with high and low value contrast, depth illusions of value, or values of color. Depth illusions could be seen in the high and low value of textures which were produced by rubbing a black crayon on newsprint that covered certain surfaces selected by the subjects. The results were called rubbings. Contrast of values which caused illusions of depth could be seen in pencil and charcoal drawings of the darks and lights in an arrangement of heavily foliaged plants.

These drawings were called still-life drawings. Values of color (tints and shades) were discovered as subjects experimented with black, white, and green tempera paint on manila art paper. The experiment resulted in high and low value contrast.

Subject evaluation of depth studies followed the completion or near completion of each study. Near completion refers to those works that had not been completed when works of most subjects had been finished. Subjects of both methods took part as one group in the evaluation; i.e., all fourth grade subjects of both methods participated in an evaluation, as did the subjects of the fifth grade and the subjects of the sixth grade. Within the drawing study, a critical evaluation was made by subjects and teacher to reinforce understanding of the medium. The evaluation was conducted by method groups rather than by a class.

The final evaluation by subjects in all grades included a sampling of all three of the depth studies from both groups. The sampling was done in view of the evaluating subjects. The teacher had chosen studies by marking every third name on alphabetized subject lists of Method A and of Method B subjects. Studies by the subjects who had a mark beside their names were excluded from those studies not chosen for evaluation. If one of the subjects whose name had been marked did not have a completed composition, the next name on the list was marked and used. The sampling was done by units of art

experiences. Unit I was the collages' drawing-rubbings. Unit II was the drawings, and Unit III was the collages' painting. Each unit had a Set I, which was the sampling of Method B, and Set II, which was the sampling of Method A. Subjects wrote their choices on sheets of paper as four questions were read. See page 24 for a list of the questions.

Hypothesis

This investigation was to test the following hypothesis:

> A significant difference on the evaluators' scores will exist between subjects' creative works of Method A and subjects' creative works of Method B.

The hypothesis to be tested statistically is the null hypothesis that no significant difference between two methods of teaching the visual element, value, will be found in the means of the evaluation scores given to a sampling of creative works made by children of the fourth, fifth, and sixth grades.

CHAPTER BIBLIOGRAPHY

1. Baur, John I. H., Between the Fairs, 25 Years of American Art, 1939-1964, New York, Frederick A. Praeger, Inc., Publishers, 1964.

2. Beittel, Kenneth R., "Art," Encyclopedia of Educational Research, edited by Chester W. Harris, New York, The Macmillan Co., Third Edition, 1960.

3. Beittel, Kenneth R. and Edward L. Mattil, "The Effect of a 'Depth' Vs. a 'Breadth' Method of Art Instruction at the Ninth Grade Level," Research in Art Education, Washington, D. C., National Art Education Association, III (Fall, 1961), 75.

4. Boeck, Wilhelm, Jap Grieshaber, Pfullingen, Germany, Verlag Günther Neske, 1959.

5. Dubin, Elizabeth, "The Effect of Training on the Tempo of Development of Graphic Representation in Pre-school Children," Journal of Experimental Education, XV (December, 1946), 166-173.

6. Forel, O. L., Synchromies, Paris, Les Éditions du Temps, 1961, plates 1, 2, 5, 6, 9, 19.

7. Gagné, Robert M., The Conditions of Learning, New York, Holt, Rinehart and Winston, Inc., 1965.

8. Hajek-Halke, H., Experimentelle Fotografie, Bonn, Athenäum-Verlag, 1955.

9. McVitty, Lawrence F., "An Experimental Study on Various Methods in Art Motivation at the Fifth Grade Level," Research in Art Education, Washington, D. C., National Art Education Association, 1956, 74-82.

10. Merrod-Lausanne, French Drawing of the 20th Century, New York, The Vanguard Press, 1955.

11. Neperud, Ronald W., An Experimental Study of Visual Elements, Selected Art Instruction Methods, and Drawing Development at the Fifth-Grade Level," Research in Art Education, Washington, D. C., National Art Education Association, VII (Spring, 1966), 3-9.

12. Osmon, Robert V., The Improvement of Secondary Teaching, Saint Louis, Educational Publisher, Inc., 1962.

13. Packard, Fr[illegible], from the artist's private collection, North Texas State University, Denton, Texas, 1966, three photographic transparencies.

14. Strowe, Carl, Formen des Mikrokosmos, Passau, Buchdruck-Verlag Passavia, 1955, plates 5, 15, 22, 24, 32, 67, 79.

CHAPTER II

DESCRIPTION OF THE EXPERIMENT

The Research Design of Method A

Structure

Thirty-five subjects were used in teaching Method A, of which twenty-six subjects completed the three studies. See Table II.

TABLE II

METHOD A SUBJECTS WHO COMPLETED THREE DEPTH STUDIES

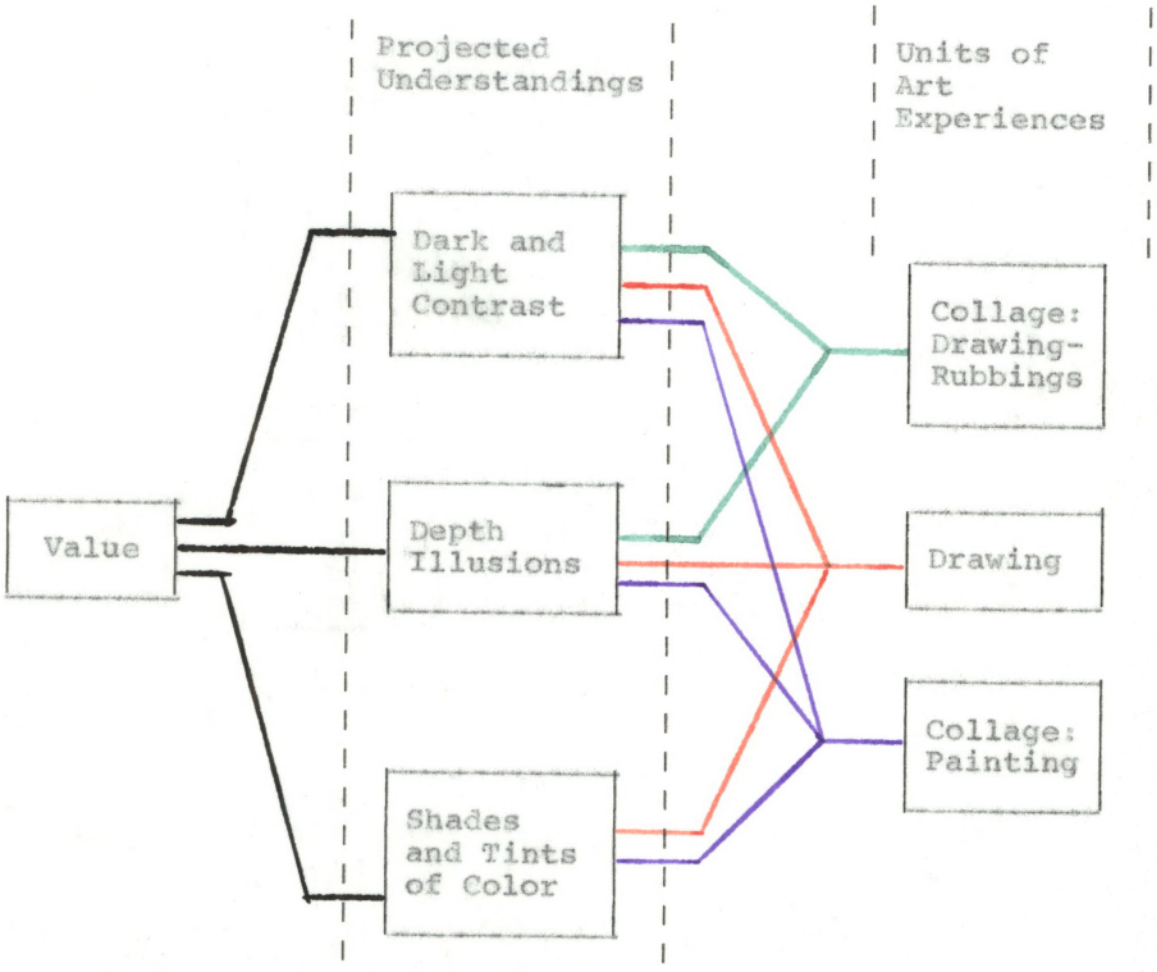
Grade	Number of Subjects	
	Beginning	Completing
4	12	10
5	12	8
6	11	8
Total	35	26

Limitations

The sequence of learning experiences for those subjects of teaching Method A was a visual study followed by a depth study and evaluation of the depth study.

The three units of study were (1) Collage: Drawing-Rubbings, (2) Drawing, and (3) Collage: Painting. See

Figure 2. Collage: Drawing-Rubbings projected understandings of contrasts in value and depth illusions of value. The drawing unit projected understandings of contrasts of value and their relationships to depth. Collage: Painting projected depth illusions of contrasts of value in color.



Green line—Unit I, red line—Unit II, and violet line—Unit III.

Fig. 2—Projected understandings of value into three units of experience for grades four, five, and six.

The collage was the vehicle by which compositions of Unit I and Unit III were meaningful. Funk and Wagnall's

Standard College Dictionary defines a collage to be "a composition, usually abstract, of flat objects, such as newspaper, cloth, etc., pasted together on a surface." Unit I collages were abstract, whereas those of Unit III were realistic. See Figure 3.

Fig. 3—Collages, Unit I and Unit III

A description of the limitations used in the three units of art experiences is given on the following pages.

Unit I.—An introduction to the advancing and receding illusions of value was made in the visual study of Unit I. A major portion of the study was devoted to identifying value changes of both high contrast and low contrast in composition. The five transparencies used were black, white, and green. Teacher-contrived questions were as follows:

1. Silent viewing. (No question was asked.)
2. How many colors did you see? (The light of the projector was turned off. See Figure 4 for illustration of the transparency.)

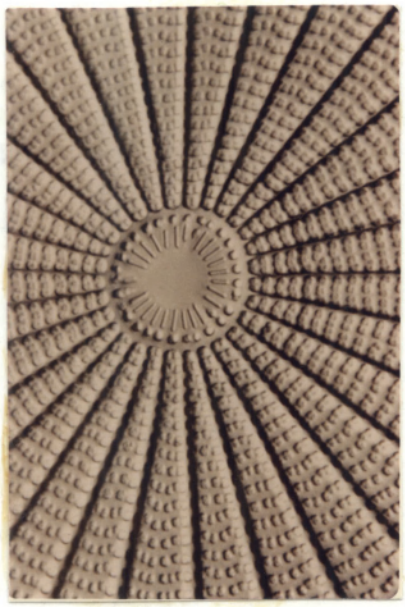


Fig. 4—Print of the second photographic transparency, Unit I.

3. What happens to the identity of this one? (The focus was moved to distort the original forms.)
4. What makes this picture strong in appearance?
5. Which slide of the five you have seen today seems to be strongest? Or do all appear to be as strong? (Strong relates to the intensity of dark and light.)

The lead statement for the depth study of Unit I was made in the following manner: "You of all people know our

world is filled with unique, strange, exciting surfaces." At this point the teacher rubbed a hand over several surfaces and continued to say, "Take several short black crayons and sheets of newsprint to record as many as fifteen, more if you like, unique surfaces found in this room. Be sure your paper is between the original surface and the crayon. Permit the swatches of surface records to be oversized." The teacher gave a concrete example of oversized. (Swatch is defined in Webster's New Collegiate Dictionary as a characteristic specimen.)

The word rubbing was introduced to the group during the second period. During this period subjects of Method A chose a rubbing that advanced from the rest of the swatches, one that receded, and a rubbing that tended neither to advance nor recede. The subjects were told to cut out the chosen rubbings and to arrange and paste them in such a way that four open spaces of the background would remain. Twelve by eighteen inch white butcher paper was used for the background. An ink line drawing of an object or objects that were seen while making the surface recordings was drawn over the collage of pasted rubbings.

Evaluation of Unit 7 was of subjects' depth studies in relation to advancing and receding illusions of the compositions. At this point subjects went before the class and held their studies in full view of those remaining at their seats. Those seated commented on the compositions held before them.

To start the critique the teacher asked, "Which collages have the highest contrast in value, and why?" For some subjects of the group the meaning of contrast was clarified.

Unit II.--The visual study of this unit consisted of an allusion to the relationship of dark to light through determining advancing and receding areas of the compositions. The study included an approach to factors contributing to density of the subject matter. Nine transparencies were used. The fifth through ninth transparencies were either of monochromatic or of close color harmony. Teacher-contrived questions and statements were as follows.

1. Silent viewing. (No question was asked.)
2. What advances?
3. Yes, what advances here?
4. Draw as much as you remember seeing. (A large sheet of paper had been taped to the wall before the subjects met and a crayon was provided for drawing.)
5. What area advances most?
6. What areas advance here? What area recedes?
7. Silent viewing. (No question was asked.)
8. Silent viewing. (No question was asked.)
9. What recedes deepest? Why? Point to the middle areas.

The depth study of Unit II began with the subjects' becoming acquainted with a drawing pencil or charcoal pencil.

Small pieces of newsprint were distributed among subjects of Method A. "Make the space of your page mostly dark. Use the point of your pencil." "Now, use the side." "Discover other ways to darken the page." After about ten minutes of becoming familiar with the advantages and limitations of the drawing instrument, subjects were introduced to a massive arrangement of leafy plants. A spotlight was beamed on the foliage to provide higher light and dark contrast. Subjects were told to draw the darks which were seen in the still life. On the second day of drawing the still life, a review of the limitations of the assignment was made. The teacher told the group to "Permit the foliage to extend past the edges of the paper. Draw or sketch only the darks that you see in very much the same way you blocked in the darks on your first piece of paper. If you wish you may draw only a certain area of the foliage." The subjects were given the opportunity for self-evaluation as the teacher asked the following questions:

1. What do you see next to dark?
2. What is used for light in your drawing?
3. How do the light areas get their shapes?
4. Are all the dark areas the same darkness?

The evaluation of Unit II constituted the viewing by subjects of the prescribed limitations made in their drawings. Subjects selected compositions from their own work tables and evaluated the drawings by using the following questions:

1. Are all your darks alike, the same shade?
2. What did you use for light?

Unit III.--The visual study of Unit III elaborated the visual concepts of shades and tints of color. Explanatory discussions were held to develop understanding of color as seen in painting and the relationship of color to nature. Red, blue, and yellow were the colors used in all but the first, third, and fourth transparencies. Teacher-contrived questions were as follows.

1. How many colors do you see?
2. How many times do you see red?
3. What makes the deep places look deep?
4. Why are whites grayer in some places?
5. How many blues are there?
6. Now, how many blues are here? Which seems to advance?
7. Silent viewing. (No question was asked.)
8. What has the most advancing qualities?
9. If this slide is interesting to you, what makes it interesting? What happens to the sky that is lightly covered with clouds?

The depth study of Unit III was making and using values of a color. The introductory motivation was How many greens can you make? Discovery. The assignment was to mix the colors into large swatches of shades and tints. "You will find that if you use green first and then add another color, you will be in control of your paint. If more paper is needed for more space, obtain another sheet.

As subjects neared the point of discovering a broad range of greens, an introduction to value and its meanings was made. A question-answer period began with such questions as

1. How many greens do you have so far?
2. How many of these are shades of green? Does shade suggest light or dark?
3. How many of these are tints of green? What does tint suggest?

Subjects were told, "The greens you have made are called values of green. Tints and shades are values of a color." They were reminded to make swatches of greens large enough for use in a composition. They were assigned to begin "the thickest jungle man had ever come upon. It's so thick that an ant would have difficulty in wandering into it. Tear or cut leaf shapes from the swatches, arrange the values so that some leaves will advance while others will recede. Paste the collage on a piece of construction paper that will make the jungle more dense." The subjects chose construction paper from a set of black, white, and grays. Experimenting with the background paper before pasting the collage was encouraged.

Evaluation of Unit III was included with the evaluation of samples of depth studies of the three units. The description of the method used for choosing the studies may be found on pages 11 and 12. The evaluations, which were also culminating experiences, were written on sheets of paper by the

subjects as the following questions were read to them:

1. Which set of colleges has the better use of value, Set I or Set II?
2. Which set of drawings has the better use of value, Set I or Set II?
3. Which set of pictures, one or two, has the better use of value?
4. How did you decide upon your choices for the better uses of value?

Sources of Data

Visual study by subjects. - Subjects of both 5 responded intuitively as the visual study for Unit I progressed. Subjects of both the fourth and sixth grades reacted with enthusiasm, although those of the fifth grade reacted with the greatest activity. Their reactions were clarified when subjects viewed and experienced Transparency 3 which may be seen in Figure 5 on page 25. The subject matter was altered by manipulating the focus of the projector. The following are the reactions of the sixth grade subjects:

Teacher: What happens when the slide is out of focus?
Subject 1: It loses the color. The white sort of takes on.
Subject 2: Everything gets rather fuzzy.
Subject 3: It changes shape.
Subject 4: It kinda gets bigger.
Subject 5: It takes out the color. The dark objects seem to disappear?
Subject 6: All the details kinda go out of the picture. The little lines that are in the middle of the main lines disappear.

Fig. 5—Transparency 3, Unit I.

The following are the reactions of the sixth grade subjects:

Teacher: Watch this. What happens?
Subject 1: It changes.
Teacher: And when it changes, what?
Subject 2: It changes shape, pattern, and color.
Subject 3: Would you say it changes color?
Subjects: Yes.
Subject 4: Yes, it used to have gray.
Subject 3: (To the teacher) Put it back on.
Subject 5: You can't see the black in it.
Subject 1: It changes that green right there. (Points to portion of image.)
Subject 6: That gray is just blurred all over the place.

Method A subjects discussed dark and light in the close value content of the second transparency of Unit I.

Teacher: (After closing shutter of projector over the transparency) What color did you see?
Subject 1: Green, white, black.
Subject 2: Dark green.
Subject 3: Beige.

Subject recognition of high dark and light contrast was observed during the rapid reappraisal of the five transparencies of Unit I. When summing up the observations made of compositions with strong visual appeal, contrast was made with compositions of lesser power.

Teacher: (While reviewing the five transparencies) Which one was the strongest or were all of the slides strong?
Subject 1: One that looked like the grasshopper looking at grass, didn't show out very good. (See Figure 6 below.)
Subject 2: If it didn't have the black marks on it, it wouldn't have showed up at all.
Teacher: What slide do you remember as being strong?
Subject 3: That one with all the different kinds of green and blacks.
Teacher: (Showing Transparency 1) Was it that one?
Subject 3: Yeah.
Teacher: (Showing Transparency 2 and then 3).
Subject 3: Yeah.
Teacher: What made that strong?
Subject 4: There were so many dark colors.
Teacher: What if it were all dark?
Subject 5: It wouldn't show up very good.

Fig. 6--Transparency 5, Unit I

The visual study of Unit II, Drawing, included nine transparencies. Teacher-contrived questions were limited to

advancing and receding illusions of value, their causes and reasons for density.

Teacher: (Of the third transparency: see Figure 7 below) What advances?
Subject 1: Kinda that dark section. It kinda comes out in that section right above it.
Subject 2: Most of the dark things, unless it's real, real light.
Subject 3: The top half of the face stands out more. I don't know why.
Subject 4: The nose, because it's light but has dark colors behind it.
Teacher: What would be the middle area?
Subject 2: They're that isn't real dark or real light.
Teacher: In this picture does the dark or light advance?
Subject 1: Light.
Teacher: Does dark have anything to do with this?
Subject 2: Yes. It kinda outlines it and makes it show up.

Fig. 7—Transparency 3, Unit II.

Observation and study of dark and light monochromatic color harmony were intended for compositions of Transparencies

5, 7, and 9. When seeing the fifth transparency (see Figure 8), subjects responded with statements such as:

Teacher: What advances the most?
Subject 1: The real light does.
Teacher: What's the middle area?
Subject 2: Well, it's sorta the blue and the spattered blue-green at the bottom.
Teacher: Well, what happens to the dark?
Subject 2: It seems to get to the back and behind the other.

Fig. 8--Transparency 5, Unit II

Transparency 7 was shown to the subjects without an initial question. Subjects compared the composition to that of Transparency 6. There were no audible observations of value, per se; however, when observing Transparency 8, subjects were overheard to make the following observations:

Subjects: (Various comments on form personal to individuals' experiences.)
Subject 1: It looks like Niagara Falls at night.
Subject 2. Light advances.

Understanding of intermediate values and their contributing factors to density of subject matter were discussed

in the following study of the ninth transparency (see Figure 9):

Teacher: What makes this picture look dense?
Subject 1: It's the dark color in the back.
Subject 2: Well, it's dark in the back and it has dark colors in it. But the white shows; the black fades away.
Subject 3: It looks like suddenly it's light and then dark and then sometimes light and dark and some light.
Teacher: Where are the middle areas?
Subject 2: (Points to slightly grayed images.)
Subject 6: The light green is kinda in the middle.

Fig. 9—Transparency 9, Unit II.

The visual study of Unit III began with a composition on which the following observations were made in response to the teacher's question. Refer to Figure 10 on page 30.

Teacher: How many colors do you see?
Subject 1: I see three colors, but different shades. In green on the background is a sort of dark green and this side is a little lighter

on the top left; on the figure it's sort or an off olive color; and the gray a little bit blacker and light gray.

Subject 2: I see black or dark and I see gray throughout it; light colors; and a green mixed in with a gray.

Subject 3: Background looks like an olive green.

Fig. 10--Transparency 1, Unit III.

When determining the number of reds seen in the second transparency, subjects seemed to agree with each other in their opinions.

Subject 1: They are lighter and darker. Then there is a milkish pink.

Subject 2: Another red is in the upper corner.

Subject 3: There are different shades. Well, most of it is one shade. Right at the top is a reddish purple, then in the middle is a yellowish red.

Subject 4: There is pink.

Although the blues of Transparency 6 made subtle change, subjects picked objectively and quickly. For example, the

following responses were:

Teacher: How many different lines do you see here?
Subject 1: Three or four.
Teacher: Which seems to advance?
Subject 2: The light.

Subjects of Method A who showed pleasure in viewing the ninth transparency of Unit III identified their reasons to be individual in relation to the subjects. For instance, the transparency reminded one subject of a coming storm, while to another it seemed that the sun was behind the clouds. In answer to the second question, "What does the cloud do to the color of the sky?" a consensus was that "the sky darkens."

Depth study by subjects.--The depth study of Unit I included a group of at least fifteen crayon rubbings, a collage made with at least three of the rubbings, and an ink line drawing.

Fourth grade subjects of Method B did not complete the assignment in the prescribed manner. The assignment was to overlap three rubbings with four spaces of the background visible. Many pieces of the collage did not overlap. Rather than cutting original rubbings large, some subjects altered them to small shapes. Until the line drawings were made, designs were overpowered by the white paper background. While subjects worked individually over choosing subject matter to be drawn with the stick, the rubbings suggested to some the subject matter for their linear part of their compositions. The work of the fourth grade subjects contained high value contrast. See Figure 11 on page 77.

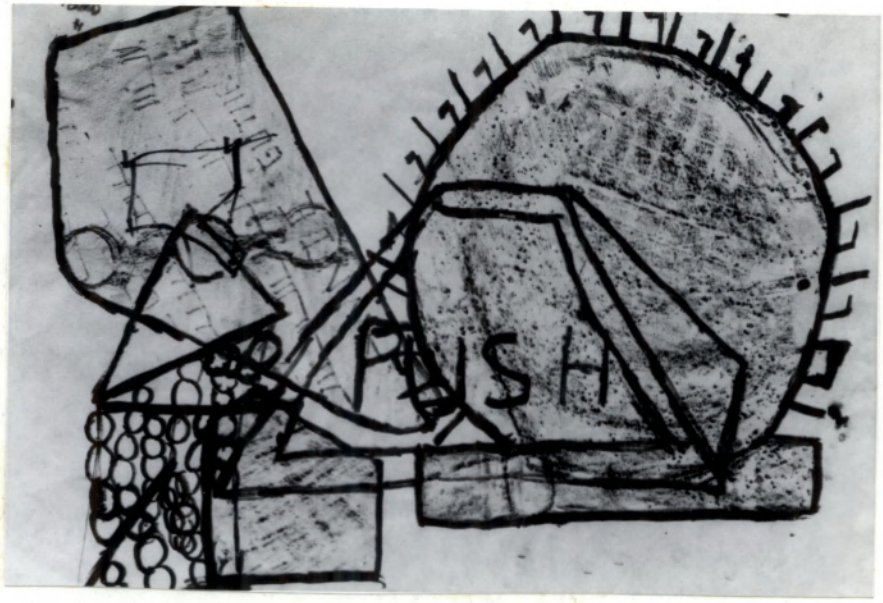


Fig. 11—Collage: drawing-rubbings; fourth grade.

Collages: drawing-rubbings made by the fifth grade subjects were often of disjointed subject matter. Refer to Figure 12. In these instances rubbings were cut smaller than

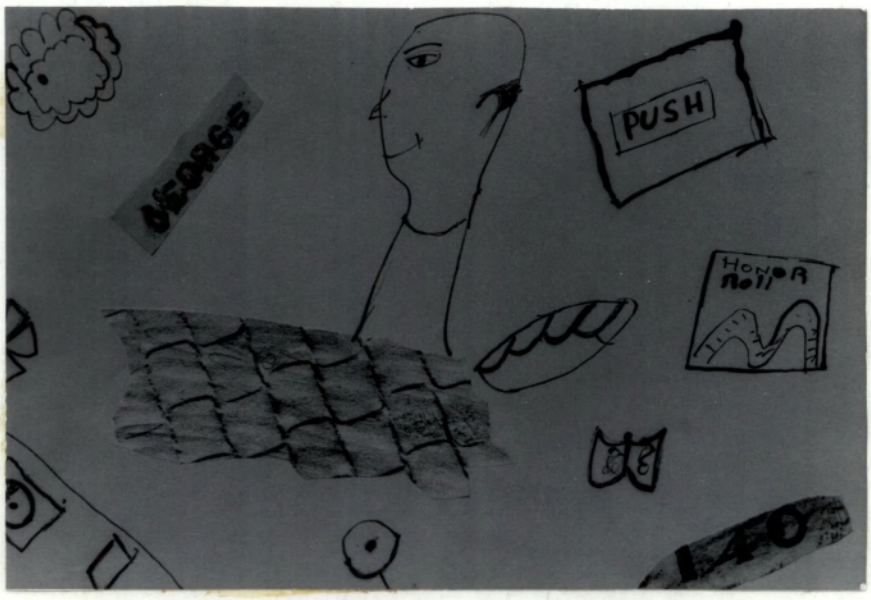


Fig. 12—Collages: drawing-rubbings; fifth grade.

they were drawn. Although two collages by sixth grade subjects were unified with drawings of large insects and a face made from a pencil-sharpener shape (see Figure 13), the remaining pictures had small drawings over a page of small rubbings.

Fig. 13—Collage: drawing-rubbings; sixth grade.

The second depth study allowed the subjects' use of the pencil. Subjects of Method A became familiar with possibilities of the drawing pencil or charcoal pencil before beginning the still life. Subjects of the fifth and sixth grades made designs of strong light and dark textures, which may be seen in Figure 14 on page 34.

The assignment, draw in darks seen in a still life, involved thinking in reverse. Often drawing is an organization

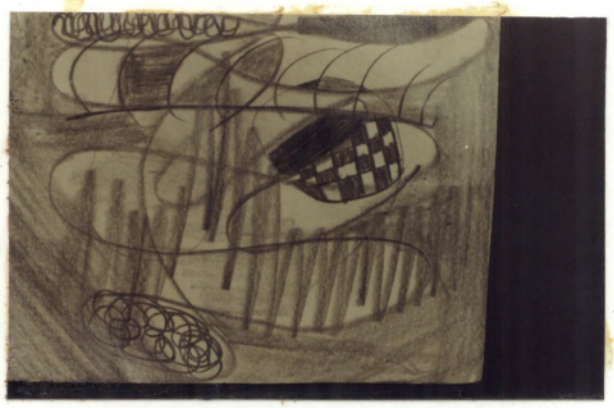


Fig. 14—Experimental pencil drawing; fifth grade.

of lines used to make a composition. Anything added, such as shade or color is placed within lines; therefore, to draw darks without line required a change or a reverse of thinking. The observation was made that the more deliberate a subject's thinking, the more difficulty he had in rearranging his thinking. Few subjects of the fourth and fifth grades attempted to draw darks without drawing contour lines. Sixth grade drawings showed more attempts to draw the darks of shapes without beginning with the contour line. See Figure 15 on page 35.

Some subjects were not encouraged to complete the study because of time limitations. While fifth and sixth grade studies tended to fill the page, few fourth grade studies completely filled the page.

The depth study of Unit III provided opportunity to use concepts of value that were employed in the first two units. The new concept to discover was value of a color. As the

Fig. 15—Pencil drawing; sixth grade.

subjects became proficient in mixing black or white tempera or both with green, experimental mixing of green into black or white was tried. This evolved, in some cases, into discovering the possibilities of paint to make texture. Small swatches were made by several subjects. The assignment, "Make oversize swatches of greens," was repeated the second day to the fifth grade subjects. "Oversize" was meaningful to the subjects only after they heard the second part of the assignment,which was to tear or cut the leaves for a jungle from the green swatches. When making the collage, individuals

would occasionally trade or use another's swatches. A free exchange of evaluative judgment among subjects of both method groups was noted when choosing construction paper for background and when arranging leaves on the background. See Figure 16 for an example of the collage: painting.

Fig. 16—Collage: painting; Method A group.

Subjects of the fourth grade used carefully planned motions as they shaped, placed, and made value judgments of each leaf. Sixth grade subjects took less time to judge. In some cases the thinking may have been in a random manner.

Evaluation of depth study by subjects.—Evaluations by the subjects of the first two depth studies were oral. The subjects of the fourth grade approached the evaluation of Unit I with caution. A substantial number of the group failed to use the terms advancing, receding, or middle tone when discussing contrast of value in the studies. A brief discussion was presented for subjects who were unfamiliar

with the meaning of contrast. Fifth grade subjects approached the evaluation with interest and little inhibition. When discussing the strong contrast in the studies, "advancing" and "receding" were used. Middle tone was not used. Sixth grade subjects appeared to find the displaying of their studies before their peers distasteful. Some exchanged studies. As the evaluation continued the subjects grew in their ability to maintain composure and began to discuss contrasts of value seen in the compositions. Overall failure was noted in the use of advancing, receding, and middle tone as terminology.

The evaluation of Unit II was conducted at subjects' work tables. A few minutes were provided for oral responses to questions which concerned the darks and lights that could be seen in the sketches. Two studies selected at each table were shown to the remainder of the class. The period was brief because an active self-evaluation had taken place during the second class period on the study of still life.

The final evaluation was of a sampling of three depth studies from Method A and Method B. There were twenty-nine subjects of Method A who evaluated the sampling. The collages: drawing-rubbings of Method A were chosen eighteen times and those of Method B were chosen eleven times. Subjects selected still-life drawings by Method A subjects twenty-five times while drawings by Method B were chosen seven times. The collages: painting by Method A were chosen sixteen times and those by Method B thirteen times. Eighty-seven choices were made. Selections for the best use of

value as seen in depth studies made by Method A totaled fifty-nine. Choices for the best use of value as seen in depth studies made by Method B totaled twenty-eight.

The Research Design of Method B

Structure

Thirty-five subjects were used in teaching Method B. Twenty-four subjects completed the studies. See Table III.

TABLE III

METHOD B SUBJECTS WHO COMPLETED THEIR DEPTH STUDIES

Grade	Number of Subjects	
	Beginning	Completing
4	12	8
5	11	9
6	11	7
Total	35	24

Eight subjects were from the fourth grade; nine were from the fifth grade; and seven subjects were from the sixth grade.

Limitations

Teaching Method B involved a sequence of learning experiences. A visual study followed a pre-visual study: depth study. Completion of the depth study and evaluation cards

after the visual study. The three units, the same as those experienced in Method A, were (1) Collage: Drawing-Rubbings, (2) Drawing, and (3) Collage: Painting. Descriptions of the units are on pages 16 and 17.

Depth studies were experienced in two parts. Part I was the pre-visual study: depth study which was a portion of the depth study experienced before the visual study. Part II of the depth study followed the visual study.

Unit I.—The first part of the depth study included the motivation to make rubbings of at least fifteen surface textures, such as the rubbing seen in Figure 17. Discussion of

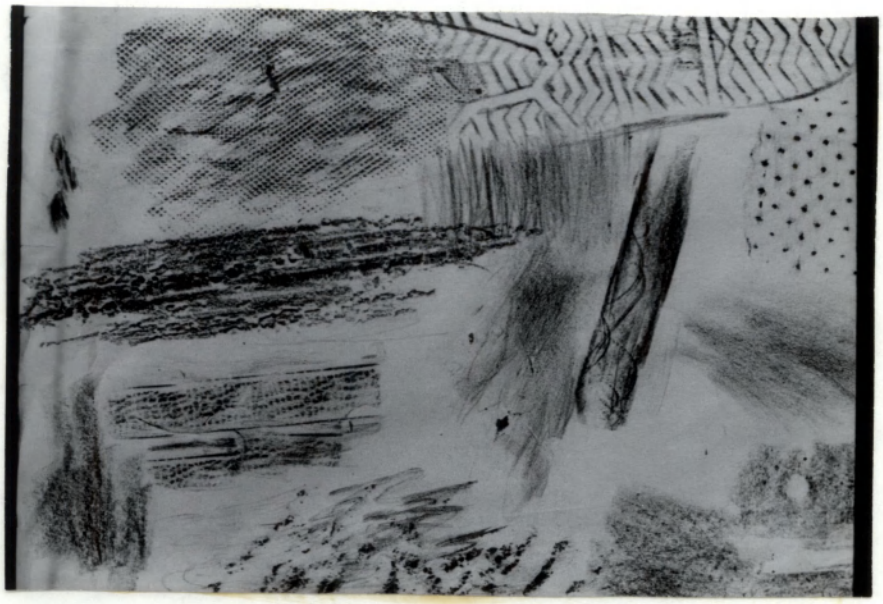


Fig. 17—Rubbings of surface textures.

advancing and receding swatches followed the gathering of rubbings.

In the visual study five transparencies were used. Teacher-contrived questions used for the study are listed on page 18.

Part II of the depth study included arranging and pasting the advancing and receding rubbings on twelve by eighteen inch white butcher paper. Using a stick, India ink line drawings were made over the collage of rubbings. Objects seen while collecting the rubbings were to provide the subject matter.

The evaluation was of subjects' depth studies in relation to advancing and receding characteristics of the collage and lines. Groups of subjects held their pieces of work before others who remained at their seats. The subjects at their seats discussed contrast and its causes as seen in the studies.

Unit II.--Part I provided experience with the limitations of the drawing pencil or the charcoal pencil.

The visual study consisted of nine transparencies. The teacher-contrived questions and statement used for the study are listed on page 20.

Subject evaluation of Unit II was viewing studies with respect to the success of the following limitations of the assignment. The limitations of the assignment were to draw the darks seen in the arrangement and to draw the folians past the edges of the paper. Subjects at each work table

determined which study or studies showed greatest success at performing the limitations. Then each subject evaluated his own study according to the following questions:

1. Are all your darks alike? The same shade? Why?

2. What did you use for light?

Unit III.--Part I of Collage: Painting was to discover as many different values of green a subject could mix when using green, black, and white tempera paint. The visual study included nine transparencies. The teacher-contrived questions used in the study are listed on page 22.

Part II began with an introduction to the terms value, shade, and tint. The shade and tints of green were made into a collage describing a dense jungle. A description of the second part may be found on pages 23 and 24.

Evaluation of Unit III studies, which is described on page 24, included an evaluation by the subjects of a sampling of depth studies from the three units by both Method A and Method B. The evaluation served as a culminating experience.

Sources of Data

Visual study by subjects.--The fourth grade subjects discussed freely as they viewed and described transparencies of Unit I. Subjects of the fifth grade were animated in their questioning as they viewed the transparencies. The sixth graders, although restless, were perceptive of changes in value and curious about the non-objective subject matter.

Subjects found no difficulty in identifying dark and light. Some subjects discerned sharp variations of value and some subjects seemed to observe with temerity as is shown in the following observations:

Teacher: (After closing the shutter of the projector over the second transparency, see Figure 4 on page 15) What colors did you see?
Subject 1: Green and white?
Teacher: Did you see any others?
Subject 2: Blue.
Subject 3: Brown.
Subject 4: Gray, a grayish color, black, different kinds of green.

Another group of subjects from Method 2 was more precise and objective when describing the same transparency.

Teacher: What colors are very obvious in this?
Subject 1: Green and white.
Subject 2: Little black things.
Teacher: Are the greens all the same?
Subjects: No.
Subject 3: Light and dark.

Subjects' recognitions of high dark and light contrast were observed during the rapid reappraisal of the five transparencies of Unit I. When culminating observations of compositions with advancing qualities, a group of subjects contrasted two transparencies that had high value contrast.

Teacher: (While showing a review of the five transparencies in rapid succession) Of all you've seen, which seems the strongest, seems to advance the most? Or do they all seem to have the same amount of strength of advancing qualities?
Subject 1: (After seeing transparency 1, which is reproduced as Figure 18 on page 43) That one.
Teacher: Why?
Subject 2: It has more variety of color. It has the dark shades and light shades so that things show up a lot better.

Fig. 18—Transparency 1, Unit II.

(Other transparencies were reflected onto the screen.)
Subject 3: Like in this one. (Speaking of Transparency 3) Things don't show up quite as much.
Subject 4: But the shapes.
Teacher: What makes the shapes show up more?
Subject 4: Well, it's like the shadows; it's like shadows of others growing over it. And the green that's in it makes it show up more. Without it, it wouldn't show up at all.

The visual study of Unit II included nine transparencies. Subjects revealed growth in perceiving dark and light relationships. A collection of oral observations of Transparencies 2 and 6 by subjects from Method B was

Teacher: (Of Transparency 2) What advances in this?
Subject 1: The edges - have a darker area.
Subject 2: The light against the dark.
Subject 3: The darker blacks.
Subject 4: The light.
Teacher: (Of Transparency 6, see Figure 19 on page 44) What advances here?
Subject 1: The dark areas.
Subject 2: The light.

Subject 3: The light.
Subject 4: Sometimes the white and you can look again and the dark green.
Subject 5: Upper corner. And the greens advance more.
Teacher: Are the greens lighter or darker?
Subject 6: The darker.
Subject 7: I think the real light white places and real dark places make kind of a contrast.

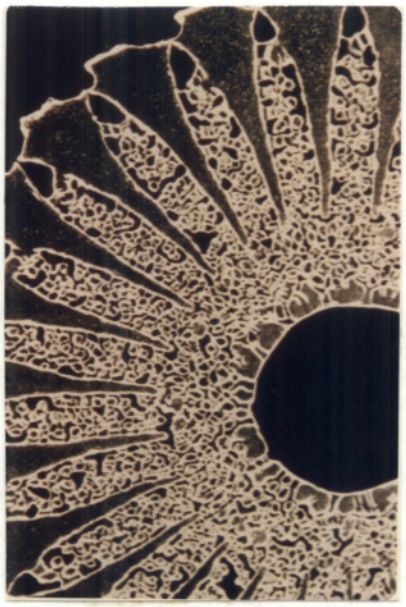


Fig. 19--Transparency 6, Unit II.

Monochrome was emphasized in Transparencies 5, 7, and 9. In response to the teacher-contrived questions for the fifth transparency (see Figure 8 on page 28), sixth grade subjects made the following statements:

Teacher: What advances here?
Subject 1: The dark blue and dark greens on the side, at least that's the first thing you notice.
Subject 2: Well, it seems to me blue goes forward but dark green is farther back than the white.
Subject 3: Well, the white and then the light blue on the one side.

Transparency 7 as shown in Figure 20 was shown to the subjects without question or statement by the teacher. Exclamations such as "Wow" and "This is wild" were recorded.

Fig. 20—Transparency 7, Unit II.

Statements of remembered visual experiences of individuals were noted.

No question was asked of Transparency 8 (see Figure 21 on page 46). An observation which a subject made was, "On the left—I think the dark blue on the left advances." This observation was recorded during the sixth grade study.

Intermediate values and their contribution to density of the ninth transparency were discussed. See Figure 9 on page 29. The fifth grade subjects' discussion was recorded as follows:

Teacher: What causes the density of thickness of this picture?
Subject 1: Shadows—
Teacher: What is the densest part?
Subject 2: The darkest part of it.

Teacher: What advances the greatest?
Subject 3: The white by the front; looks like it's got a spotlight on it.
Teacher: Point to the middle values or tones.
(Two subjects pointed to different intermediate values.)
Subject 3: Wouldn't the middle values be not the lightest of the dark greens but more of a light green?

Fig. 21—Transparency 8, Unit II.

The visual study of Unit III was of values of color. Immediate recognition of close changes of the values of colors in the first compositions varied among subjects. For example, those of the fourth grade discovered the reds in Transparency 2 (see Figure 22 on page 47), as follows:

Teacher: How many reds do you see in this?
Subject 1: Five.
Teacher: Go up and point them out. As you point them out describe them.
Subject 1: They're all the same.
Subjects: No.

Subject 1: Here's a red. Here's a red with a little yellow.
Subject 2: It looks like here's a little bit of red mixed in the white.
Subject 3: Is there a little black in this?
Teacher: It may be.

Fig. 22—Transparency 2, Unit III.

Subject responses to blues seen in the sixth transparency showed inconclusive analyses which were due to the ambiguity of value changes. The advancing area was more clearly defined although contradicting observations were recorded.

As the study progressed subjects became fluent with their explanations of change in hue. The discussion of Transparency 9 (see Figure 23 on page 48) by fourth grade subjects was the following:

Teacher: If you find this pleasing, why do you think it pleasing?
Subject 1: The orange at the top mixed with black.
Subject 2: I really don't think it looks too hot.
Subject 3: You could say the clouds go away and the sun comes out.

Teacher: What happens to the yellow sky with clouds over it?
Subject 4: It becomes lighter.
Subject 5: It dims it.

Fig. 23—Transparency 9, Unit III.

Responses of fifth and sixth grade subjects to the same question, "If you find this pleasing,...." were as follows:

Subject 1: I like the dark that comes over real light colors.
Subject 2: It sort of shadows in different places and it makes an interesting effect.
Subject 3: Well, because there's not just dark, but light gray . . . (The rest of the subject's reasoning was inaudible).
Subject 4: The sky seems to signify peace, with the birds.

Responses to "What happens to the yellow sky with the clouds over it?" were individually interpreted, but related to "It gets darker."

Depth study by subjects.—The depth study of Unit I resulted in the collages: drawing-rubbings. Subjects of Method B gathered a group of at least fifteen rubbings during the

first period. See Figure 17 on page 36. From the finished rubbings subjects chose one that seemed to advance or "jump out from the page." This choice was followed by choosing a rubbing that receded or "seemed to be farther to the back" and choosing one that was between those which advanced and receded, "one in the middle or middle tone." To acquire further clarification the subjects questioned meanings of the terms advancing, receding, and middle tone.

The rubbings were cut and arranged for pasting after limitations of the assignment were given.

Collages were not always arranged according to prescribed limitations of the assignment. The line drawings in India ink of object or objects seen while making the surface recordings were not always visible. In such cases the textures of rubbings had suggested non-objective as well as objective subject matter. See Figure 24 on page 50.

Studies by the fourth grade subjects varied from disjointed to well-organized compositions. Some studies seemed to reveal that the four spaces of background, a limitation to arrangement of the collage, may have been incorporated with the line drawing rather than used when arranging the rubbings for pasting. See Figure 25 on page 50. Five drawings revealed three or four parts which were drawn. Studies by the fifth grade subjects included textured drawings and collages grouped into light and dark areas, which may be seen in Figure 24 on page 50. Depth studies made by subjects of the

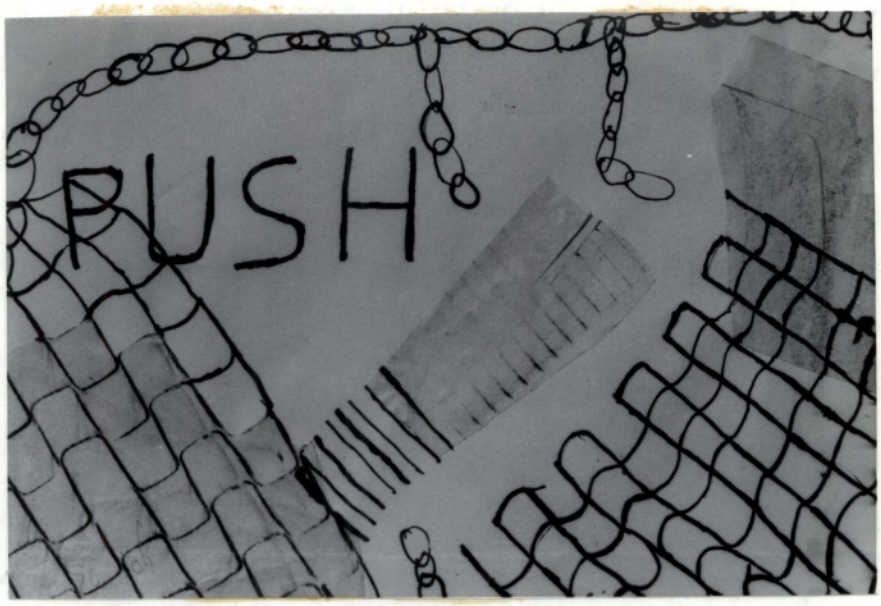


Fig. 24—Collage: drawing-rubbings; fifth grade.

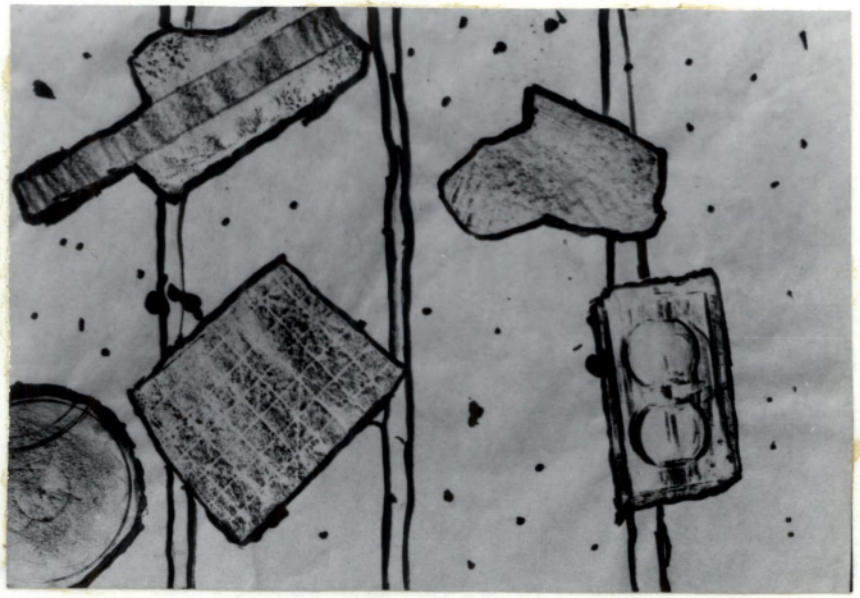


Fig. 25—Collage: drawing-rubbings; fourth grade.

sixth grade lacked both grouping of dark and light areas and overlapping of subject matter.

Fourth and fifth grade subjects of Method B were introduced to the second depth study without experimentation with the drawing tools. Drawings of foliage were small with thin lines rather than dark, bold blocks of shade as seen in the still life. For this reason a short experience to give an understanding of the limitations of the pencil or charcoal pencil was provided at the beginning of the next class period (see Figure 26). The same experiment was used as the introduction to the medium with sixth grade subjects and Method A subjects. Experimental drawings were often designs with contrast in value and in texture.

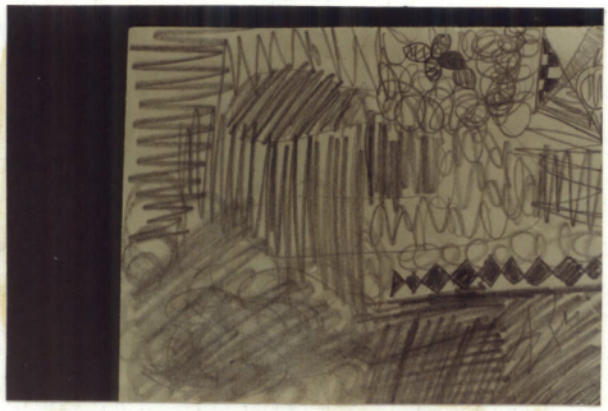


Fig. 26—Experimental drawing; Method B.

Completed studies by subjects of the fourth grade showed that values of various intensities were drawn as observations of the foliaged still life permitted. An example may be seen in Figure 27 on page 52. Studies by fifth grade subjects occasionally showed attempts to sketch shade without line. Few

sixth grade studies showed such attempts. They drew the line first, then added the value. Foliage or other subject matter often failed to be drawn past the edges of the page (see Figure 28 on page 53).

Fig. 27—Foliaged still life; fourth grade.

The third depth study was to enlarge the subjects' concepts of values of color. When subjects of Method B mixed paint to make swatches of greens, the swatches were often small. This action was more prevalent among fourth and sixth grade subjects. Although a review of the term oversize was

Fig. 28—Foliaged still life; sixth grade.

made, swatches did not become large until after hearing the assignment for Part II. Part I of the depth study was experienced over one class period by fourth and sixth grade subjects of Method B while some subjects of the fifth grade experienced the mixing during two periods. Because several were completing their drawings of the still life, the extension of time was provided.

When the collage of leaves was arranged on the background page, subjects exchanged leaves and criticized choices of values among themselves and among those of Method A. This practice was seldom observed with the fourth grade subjects, but as the age of the subjects increased more cooperation among them took place; however, subjects of the sixth grade demonstrated individuality while working with the collage.

For example, large leaves were torn by one subject though small leaves were cut by a neighboring subject. See Figure 29 for an example of Unit III depth study.

Fig. 29—Unit III depth study; Method B group.

Evaluation of depth study by subjects.—Evaluation of depth studies was made by subjects of Method B and Method A as one group. The description of evaluations of the first two depth studies is on pages 37 and 38.

Thirty-five Method B subjects evaluated the sampling of depth studies from each unit and method. Eighteen choices for the Method A collages: drawing-rubbings and seventeen choices for Method B were made by the subjects. The subjects selected still-life drawings by the Method A group twenty-eight times and by the Method B group seven times. Collages: painting by Method A were chosen ten times while collages by Method B were chosen twenty-five times. Selections for the best use of value as seen in studies made by Method A totaled

fifty-six. Choices for the best use of value as seen in depth studies made by subjects totaled forty-nine. One hundred five choices were made by the subjects of Method B.

CHAPTER III

EVALUATION OF STUDY

The Instrument for Evaluating

A random sampling which abbreviates the bulk of pieces to be evaluated was made of the depth studies. Fifty-two studies of the first unit were turned face down. They were organized into grade level and method sets. For instance, all studies of the fourth grade, Method A were one set; all studies of the fourth grade, Method B were another. Six such sets were turned with picture side down. A person with no concern or knowledge of the study was asked to pick three pieces from each of the six sets. A check was placed on each. Studies of eighteen subjects were chosen. Studies of the other two units by the same subjects were collected. The result was fifty-four pieces, three sets which were to be evaluated.

Thirty-one evaluators were used. They were art educators, artists, senior art education majors having had or at the time experiencing student teaching, and college graduates without an art background. One exception was a senior student of dietetics.

The three sets of studies were arranged to be evaluated in the order in which subjects experienced them. The arrangement of samples was (Set I) College Drawing-Rubbings, (Set

II) Drawings, (Set III) Collage: Painting. Each piece was numbered. Pieces of Set I were numbered in numerical units of one hundred. Those of Set II were numbered in units of two hundred. The pieces of Set III were units of three hundred. The first nine of each set were samples of Method A. Ten through eighteen of each set were samples of Method B.

Sheets used by evaluators to record their evaluative decisions were numbered to correspond with the arrangement of samplings when viewed. Each number was marked by the evaluator 1 (very good), 2 (good), 3 (fair), 4 (poor), or 5 (reject). Limited directions for evaluating criteria were included with sheets. The first and second sets were evaluated on the advancing-receding illusions made with value. Evaluation of the third set was made on depth brought about by values of a color. The scores given by evaluators to each subject's three pieces of work were totaled and used as the raw scores which were treated statistically. See pages 68 and 69.

Seven evaluators had prior knowledge of the study which they were to evaluate. They were named Study-Informed Evaluators. The evaluators read a brief summary of the methods which were used for teaching the subjects before evaluation of the pieces.

Interpretation of the Data

Data on the hypothesis were compiled and arranged for statistical treatment. Some computations were made at the

North Texas State University Computer Center for an analysis of variance of the raw scores.

The seven Study-Informed Evaluators gave a mean of 70.1428 to the scores of the Method A sampling. The other evaluators gave a mean score of 77.3750 to the sampling. There was a variance of 7.7322 among the scores of the two groups of evaluators. The Study-Informed Evaluators gave a mean score of 67.4286 to Method B sampling. Other evaluator's mean score of the sampling was 78.3750. There was a variance of 10.9464 among the means of the scores given by the two groups of evaluators to the Method B sampling.

Growth of individual subjects of Method A was noted. Six subjects had variance of 5.47 percent to 16.91 percent in the second studies when compared with their scores of the first studies. See Table I on page 59. Three of the subjects had a variance of 10.36 percent to 14.98 percent on the third studies when compared to Study I. Subjects Five, Seven, and Nine showed a loss-variance of 5.09 percent to 14.27 percent in the third study. Subject Two made small positive gains in each study. Subject Three had a loss of 6.02 percent in the second study, whereas a gain of 6.76 percent in the third study. One-third of Method A subjects has positive growth as seen in the three studies.

Subject One of Method B has positive variance between both Study I-Study II and Study I-Study III. See Table V on page 60. Subjects Seven, Eight, and Nine made a gain of

TABLE IV

COMPARISON SHOWING STUDIES OF SUBJECTS, METHOD A

Subject	Percentage	
	Study I-Study II	Study I-Study III
1	5.47	12.92
2	2.07	3.85
3	- 6.02	6.76
4	6.10	10.36
5	13.65	8.56
6	5.22	14.98
7	6.49	0
8	- .63	-13.60
9	16.91	2.64

4.79 percent to 15.79 percent in the second studies; however significant negatives were found in the third studies. Two subjects, Four and Five, showed a loss in the second studies and a gain in the third studies. One-ninth of the Method B subjects had positive growth as seen in the three studies.

Fluctuations of evaluation scores had similar trends as seen in grade levels between method groups. The trend of fourth grade subjects was to show little or no growth in Study II; and to show positive mean changes between Studies II and III. Although percentage totals of both the second and third studies of Method B had negative variance, the mean

TABLE V

COMPARISON BETWEEN STUDIES OF SUBJECTS, METHOD B

Subject	Percentage	
	Study I-Study II	Study I-Study III
1	3.54	10.63
2	-20.35	-13.30
3	- 3.19	- 1.89
4	- 9.10	7.79
5	- 1.22	3.69
6	- .49	- 3.61
7	4.79	- 2.22
8	15.49	.59
9	15.17	- 1.50

change between Study II-Study III was positive; see Table VII on page 61. Method A increased 6.7367 (see Table VI), and Method B increased 5.1290.

TABLE VI

MEANS OF PERCENTAGE TOTALS OF THE COMPARATIVE DEPTH STUDY SCORES WITHIN GRADE LEVELS OF METHOD A

Grade	Study I-Study II		Study I-Study III		Mean change between Study II-Study III
	Total	Mean	Total	Mean	
4	2.3200	.7733	23.5346	7.5100	6.7367
5	24.9700	8.3233	33.9000	11.3000	2.9767
6	22.7700	7.5900	-10.9600	*3.6533	*11.2433

*Mean loss

TABLE VII

MEANS OF PERCENTAGE TOTALS OF THE COMPARATIVE DEPTH STUDY SCORES WITHIN GRADE LEVELS OF METHOD B

Grade	Study I-Study II		Study I-Study III		Mean change between Study II-Study III
	Total	Mean	Total	Mean	
4	-20.0400	*6.6800	-4.5600	*1.5200	5.1200
5	-10.8100	*3.6033	7.8700	2.6233	6.2266
6	35.4500	11.8167	-2.1300	*1.0433	*12.8600

*Mean loss

Grade Five increased in the comparative means of Study I-Study III. Method B percentage totals rose positively in the last two studies. The change was a mean of 2.9767. Method B showed a loss-variance between Study I-Study II with a positive variance between Study I-Study III. The comparative mean of the last two studies showed a gain of 6.2266.

Grade Six showed close, comparable fluctuations of both Method A and Method B. Comparative percentages of Study I-Study II were significantly high. Percentage totals of Study I-Study III had negative variables. A mean loss of 11.2433 was found in Method A and 12.8600 in Method B.

The null hypothesis in this study was that no significant differences in the evaluation of children's work would be found as a result of Method A or Method B in teaching value. The null hypothesis is tenable since none of the t values as presented in Table VIII on page 62 are significant at the .05 level. In analysis of variance the F value was

.7343,which is not significant at .05. See Table IX on page 63.

TABLE VIII

COMPARATIVE DATA BETWEEN METHOD A AND METHOD B SETS

Number	Group	Set	Mean	Standard Deviation	Fisher t.	Level of Significance
1	A	I	95.7777	17.0475	1.5850	n.s.
	A	II	83.6666	18.8325		
2	A	I	95.7777	17.0475	1.7014	n.s.
	A	III	82.7777	10.4006		
3	A	II	83.6666	18.8325	.1163	n.s.
	A	III	82.7777	10.4006		
4	B	I	87.2222	14.0299	-.1017	n.s.
	B	II	86.0000	19.0962		
5	B	I	87.2222	14.0299	.1308	n.s.
	B	III	86.2222	9.2829		
6	B	II	86.0000	19.0962	.2326	n.s.
	B	III	86.2222	9.2829		
7	A	I	95.7777	17.0475	1.1197	n.s.
	B	I	87.2222	14.0299		
8	A	I	95.7777	17.0475	1.0179	n.s.
	B	II	88.0000	19.0962		
9	A	I	95.7777	17.0475	1.2506	n.s.
	B	III	86.2222	9.2829		
10	A	II	83.6666	18.8325	-.4653	n.s.
	B	I	87.2222	14.0299		
11	A	II	83.6666	18.8325	-.0671	n.s.
	B	II	86.0000	19.0962		
12	A	II	83.6666	18.8325	-.3344	n.s.
	B	III	86.2222	9.2829		
13	A	III	82.7777	10.4006	-.5816	n.s.
	B	I	87.2222	14.0299		
14	A	III	82.7777	10.4006	-.6034	n.s.
	B	II	88.0000	19.0962		
15	A	III	82.7777	10.4006	-.4508	n.s.
	B	III	86.2222	9.2829		

TABLE IV

SUMMARY OF ANALYSIS OF VARIANCE
FOR METHOD A AND METHOD B

Source of Variation	Sums of Squares	Degrees of Freedom	Variance Estimate	F
Between	964.6000	5	192.9200	.7342
Within	12610.2400	48	262.7133	
Total	13574.8400	53	...	...

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

In summary the purpose of this study was to determine the meaning of motivational enrichment to phases of a structured art program. The results of experimental teaching of value to a population of fourth, fifth, and sixth grade children showed that motivational enrichment before an art experience and motivational enrichment following a portion of the art experience have similar impact on the use of value in the creative works. Computations made at the North Texas State University Computer Center showed that variance between the two teaching methods was not significant at the .05 level. The Fisher's t for analysis of variance of small groups was used to test for significance.

Further statistical treatment showed that one-third of the Method A data proved to have consistent growth, whereas one-ninth of the Method B data proved to have consistent growth.

Means of the percentage depth study scores within grade levels indicated strong similarity of trends between method groups of the sixth grade.

One contributing factor to the similarity of results from the two teaching methods may have been the non-representational subject matter may have prohibited transfer of the value concepts learned in the visual study to the concrete representations made in the depth study. The lack of strong teacher verbalizing during the visual study may have been another contributing factor to the similar impact of the two methods of using motivational enrichment on intermediate children. Finally, concurrent environmental time periods were used for each grade. The experimental groups of each grade may have shared and contributed impressions and understandings of concepts to each other.

Perhaps the most significant finding of the present study was that both sixth grade groups acted in the depth studies with fluctuations which were strongly similar. A high positive variance was seen in the Study I-Study II comparisons. Study II was the folinged still life which was *in toto* absent of non-representational forms. Study I and Study III were ultimately realistic; however, the initial experiences were experimentations and non-objective in nature.

Conclusions

The following conclusions are based on the findings of this study.

1. In the composite of the sampling of fourth, fifth, and sixth grade subjects, there is no significance in the results of an approach by a visual study before the depth

study or an approach by a visual study within the depth study. The results as shown in the raw scores in Table X and XI on pages 68 and 69 were similar.

2. In specific grade levels of the fourth, fifth, and sixth grades, there is no significance in either method approach. The results as shown by the means of growth percentage in set of depth studies fluctuated with similar tendencies in specific grade levels.

3. In individual subjects, there is slight indication that a visual study used before a depth study provides more growth in understanding the concepts of value than does a visual study spotted within a depth study.

Recommendation for Further Study

The results of this study indicate that further study in the following areas would be worthwhile.

1. Extensive study should be made with sixth grade subjects in successive environmental time periods.

2. Objective (realistic) subject matter and non-objective subject matter should be the criteria for a visual study of four groups of subjects, two groups to have the objective subject matter and two groups to have the non-objective subject matter.

3. The effects of strong teacher verbalization on groups of subjects which have visual studies following pre-visual study: depth study experiences should be explored by further experimentation.

4. In future studies that are of the nature of this study, pre depth study experiences should be with representational subject matter.

APPENDIX

TABLE X

RAW SCORES OF METHOD A SAMPLING
EVALUATED FOR VALUE USAGE

Subject	Set			Total
	I	II	III	
1	107	90	74	271
2	109	99	96	304
3	94	115	78	287
4	83	75	63	231
5	93	66	74	233
6	132	108	91	331
7	82	70	82	234
8	70	71	101	242
9	87	59	81	227
Total	862	753	745	2360

TABLE XI

RAW SCORES OF METHOD B SAMPLING EVALUATED FOR VALUE USAGE

Subject	Set			Total
	I	II	III	
1	116	104	84	306
2	68	123	96	287
3	79	36	83	248
4	92	108	68	258
5	36	89	78	253
6	79	80	87	246
7	81	72	86	239
8	175	68	101	272
9	89	62	93	244
Total	785	792	776	2353

INFORMATION PROVIDED BY SEVEN STUDY-INFORMED EVALUATORS

The Visual Evaluation of Results of Two Teaching Methods

Both teaching methods included visual study, depth study and subject evaluation. The studies were attempts to deepen understandings of the design element, value. A visual study included transparencies relating to the design element. A depth study was creative interpretation of value-relating experiences. The interpretations are the results to be evaluated. There were three units of experience which are as follows:

Advancing-Receding Illusion of Value (Set I)

Constructing with Shade (Set II)

Depth and Values of Color (Set III).

Judge _____

Date _____

Time _____

SHEETS FOR EVALUATION OF STUDIES OF TWO TEACHING METHODS

Set I

Study	Use of Value-Advancing-Receding Illusion (Collage: Drawing-Rubbings)
101	
102	
103	
104	
105	
106	
107	
108	
109	
110	
111	
112	
113	
114	
115	
116	
117	
118	

Evaluation key

1 - very good

2 - good

3 - fair

4 - poor

5 - reject

Set II

Study	Use of Value: Constructing with Shade (Drawing)
201	
202	
203	
204	
205	
206	
207	
208	
209	
210	
211	
212	
213	
214	
215	
216	
217	
218	

Set III

Study	Use of Value: Depth and Values of Color (Collage: Painting)
301	
302	
303	
304	
305	
306	
307	
308	
309	
310	
311	
312	
313	
314	
315	
316	
317	
318	

TABLE XII

ART BACKGROUND OF INSTRUCTORS FOR EVALUATION

Number	Artist	Art Educator**				Degrees									
		E	S	C	ST	D*	Major***						Minor*** of 1st Degree		
							A	Ah	FA	Ae	Ed	Other	A	Ed	Other
1		2	2	4		3				x			x		
2		3	6	7		2	x								x
3		1	2	2		2			x	x				x	
4		6		24		3	x				x				x
5	x	2		7		2	x		x						x
6				11		2	x				x				x
7	x			7		2			x				x		
8	x		3	16		2			x				x		
9	x	1		21		3	x								x
10	x					2	x							x	
11					x					x					
12					x					x					
13					x					x					
14												x			x
15		5				1					x		x		
16		13				1					x				x
17	x	1	3	8		2			x	x					x
18	x	8	6			2			x					x	
19		17				2					x		x		
20		3				1					x		x		
21		24	3			2					x				
22		13	3			2					x		x		
23		4	2	2		3	x								x
24			5	1		2			x	x				x	
25	x	2		1		2	x					x			
26	x					1	x								x
27		10	12	2		2	x		x						x
28						1	x								
29		28		2		2	x				x			x	
30		3	9			2	x							x	
31		5				1					x				x

*Number of Degrees.

**E--elementary, S--secondary, C--college, ST--student teaching.

***A--Art, Ah--Art History, FA--Fine Arts, Ae--Art Education, Ed--Education.

BIBLIOGRAPHY

Books

Baur, John I. H., Between the Fairs, 25 Years of American Art, 1939-1964, New York, Frederick A. Prager, Inc., Publishers, 1964.

Boeck, Wilhelm, Hap Grieshaber, Pfullingen, Germany, Verlag Günther Neske, 1959.

Forel, O. L., Synchromies, Paris, Les Éditions du Temps, 1961, plates 1, 2, 5, 6, 9, 10.

Gagné, Robert M., The Conditions of Learning, New York, Holt, Rinehart and Winston, Inc., 1965.

Majek-Halke, F., Experimentelle Fotografie, Bonn, Athenäum-Verlag, 1955.

Mermod-Lausanne, French Drawing of the 20th Century, New York, The Vanguard Press, 1955.

Osmon, Robert V., The Improvement of Secondary Teaching, Saint Louis, Educational Publishers, Inc., 1962.

Strüwe, Carl, Formen des Mikrokosmos, Passau, Buchdruckerei AG Passavia, 1955, plates 5, 15, 22, 24, 32, 67, 70.

Articles

Dubin, Elizabeth, "The Effect of Training on the Tempo of Development of Graphic Representation in Pre-School Children," Journal of Experimental Education, XV (December, 1946), 166-173.

Publications of Learned Organizations

Beittel, Kenneth R., and Edward L. Mattil, "The Effect of a 'Depth' Vs. a 'Breadth' Method of Art Instruction at the Ninth Grade Level," Research in Art Education, Washington, D. C., National Art Education Assn., III (Fall, 1961), 75.

McVitty, Lawrence E., "An Experimental Study on Various Methods in Art Motivation at the Fifth Grade Level," Research in Art Education, Washington, D. C., National Art Education Assn., 1956, 74-82.

Neperud, Ronald W., "An Experimental Study of Visual Elements, Selected Art Instruction Methods, and Drawing Development at the Fifth-Grade Level," Research in Art Education, Washington, D. C., National Art Education Assn., VII (Spring, 1966), 3-9.

Encyclopedia Articles

Beittel, Kenneth R., "Art," Encyclopedia of Educational Research, edited by Chester W. Harris, New York, The Macmillan Co., Third Edition, 1960.

Collection

Packard, Fred, From the artist's private collection, North Texas State University, Denton, 1966, 3 photographic transparencies.