AN EXPERIMENTAL STUDY COMPARING A RELATIVELY DIRECTIVE APPROACH TO A RELATIVELY NON-DIRECTIVE APPROACH IN TEACHING ART TO SIXTH AND SEVENTH GRADERS

A Thesis

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D. P. W.

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Chapter 1

INTRODUCTION

From the time the first cave man carved cracks in a stone wall with another stone and filled the cracks with berry juice to make a visual symbol, until the present day, many advances have been made in technology. Artists' tools and materials, today, are highly refined and are becoming increasingly so, compared with artists' tools and materials of the past. The concept of the image has changed equally as drastically over the period of thousands of years.

It is important that educators in Art keep up with current changes in technology in order to maintain their current status as a dynamic part of the total school curriculum.

THE PROBLEM

Today's art teacher has a large variety of tools, materials, techniques and teaching strategies from which to base his classroom presentations. Probably every art teacher has concerned himself with the problem of how to combine all of these elements into a project or presentation in order to produce maximum results with what he has to work.

Statement of the Problem

Is there a significant difference in the effectiveness of two contrasting learning activities, one being highly directive, the other being somewhat non-directive? Is there a significant difference between the short term effectiveness and the long term effectiveness of the two approaches?

Statement of the Hypothesis

There is no significant difference in learning achievement when material is presented via a directive method as opposed to being presented via a non-directive method. There is no significant difference between short term achievement and long term achievement when these two teaching methods are used with two groups.

Assumptions of the Study

The basic assumption of this study was that each of these methods would in fact produce significant positive results. Secondly, that there would be a difference in the immediate effectiveness and the long term effectiveness of the two methods, based on student achievement.

Purpose of the Study

The purpose of the study was to attempt to determine the relative amount of effectiveness of both approaches and to assess the merits of both approaches in terms of immediate effectiveness and long term effectiveness.

Significance of the Study

The significance of the study was in its contribution to the field of Art Education, in that the Art Teacher might be able to more appropriately plan his presentations of material with respect to his particular situation. On the basis of reviewing related literature, and the researcher's teaching experience, the researcher felt that it would be neither feasible nor desirable in the junior high school situation to adopt either a completely open approach without direction or an extremely directive approach. There were, however, a number of considerations which could be applied to the learning activities in order to make those activities either more directive or less directive in nature. Specific applications may be found in Appendexes A, B, C and D.

DEFINITIONS OF TERMS

In order to avoid confusion some of the concepts and terms used in this study have been defined.

Directive Method

A consistent strategy of instruction whereby the students' goals were set by the instructor.

Non-Directive Method

A consistent strategy of instruction whereby the students had some input in setting goals for themselves. Minimum amount of directions were given by the instructor.

Learning Activity

Activity carried out by the student which provided the stimulus for learning. Activities were the same for both groups the difference being the approach in which the activities were presented.

Effectiveness

The term "effectiveness" referres to the evaluation of art works individually, by a number of fellow art teachers.

Immediate Effectiveness

The evaluation of student art work by a panel of art experts immediately following the period of instruction.

Long Term Effectiveness

The evaluation of student art work after an interval of time following the period of instruction.

LIMITATIONS OF STUDY

The study was limited by a number of conditions which existed at the particular school where the study was conducted. It was decided, because of schedule, that an eighteen-week period was long enough to indicate a trend in the comparative effectiveness of the two approaches; however, it was obvious that the longer the research period was, the more accurate the results would be. A second limitation was the background of the students involved in the test program. The investigation basically included students who were of middle to low socio-economic backgrounds. A number of the students came

from families of migrant workers and had moved from school to school and from town to town without having the opportunity to become adjusted to any particular situation. The educational background of the students involved was widely varied. Elementary feeder schools ranged from the newest elementary school in the system which employed the "open concept approach" to the oldest elementary schools in the system which employed the more traditional approach to education. The "open concept" school was well equipped with a staff of teachers who had a consistent philosophy toward education which tended to promote creative thinking in various areas, an aspect of education which was vital to the production of art. The older schools tended to be staffed with teachers whose philosophies toward education varied. In some classes creativity was emphasized and in other classes it was not.

A third limitation was that the study was limited to sixth and seventh grade students and it was not known whether or not conclusions of the study would be applicable to students of other ages.

As the teaching philosophies of various teachers in the building varied somewhat, it was thought that while some students were coming each day to the test group from a highly directed class, others were coming from an open classroom situation, and this might have some bearing on the performance of students involved in either of the test groups.

Chapter 2

REVIEW OF RELATED LITERATURE

A review of the related literature revealed writers in three different categories. Some were strongly in favor of highly structured, highly directive, and traditionally oriented types of classrooms. Some were highly in favor of very unstructured, non-directive, open types of classroom organization. Others fell into a category with Victor D'Amico who wants not

> . . . to revive the dictatorial procedures of the past or to perpetuate the irresponsible and laissez-faire methods of today but to examine the failures and successes of each with the implication that it might lead to an entirely new approach to education.[1]

THE STRUCTURED APPROACH

One argument for the structured curriculum throughout the art program was that without structure the art program would have no continuity from one grade level to the next. "We need to develop a curriculum because we need a blueprint to guide our activities."[2] If the structured program were to function throughout a child's elementary school career, then secondary art teachers would not

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[1]Victor D'Amico, Creative Teaching in Art (Scranton: International Textbook Company, 1954), p. iii.

[2]Shirley Libby, "A Case for Curriculum in the Arts," School Arts, 69:8-9, September, 1969.

have to organize their instruction as though their students had no previous exposure to art.[3] As it was, students could have taken art in different junior high schools under different teachers and not have learned the same things. When the students could have been learning new concepts and procedures, they were held back by other students who had a different junior high school background in art. A second argument for the structured curriculum was that no child has the experience or knowledge to judge a learning system as was assumed in the open concept. A study in a Chicago area school system showed that the open approach worked well for four or five months. Then average and low achievers became bored and learning ceased, although high achievers continued to do well. The conclusion was that "learning comes from discipline not from chaos . . . every child needs a guiding hand."[4] Another study was carried on in the Sacramento Unified School District, Sacramento, California. This study was implemented in order to encourage frustrated, defensive, poor attending delinquents to return to the regular school programs within the schools. Within this group it was determined that a structured approach was needed because "as their individual skills improve in any subject, they almost automatically become interested in it."[5]

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[3]Mary J. Rouse and Guy Hubbard, "Structured Curriculum for the Art Classroom," Studies in Art Education, 11:14-24, Winter, 1970.

[4]Earl J. Ogletree, "The Open Classroom: Does It Work?," Education, 93:66-7, September, 1972.

[5]Harold Parker, "On Making Incorrigible Youths Corrigible," Education Digest, 35:22-4, May, 1970.

Those writers who opposed the structured approach leveled these arguments against the structured approach.

> There are too many dilettante-oriented programs impressing students with the importance of the clever product rather than the significance of a creative attitude or even a concern for the act.[6]

"The routine of each child's day created an immense barrier which reinforced their preconceived ideas and inhibitions." Structuring the program tends to emphasize the product. Secondly, traditional education fails to develop the individual's ability to think for himself.[7] Beyond the other values of art education the art class tends to foster divergent thinking rather than convergent thinking.[8] Thirdly, exposure is not equivalent to teaching. Simply because something was covered in class, it did not mean that the students learned something. The students need time to digest material.[9]

> Directed teaching is a term often used by art educators to define a kind of teaching in which stereotyped, step-by-step, copying, tracing, or imitative procedures are utilized. It is probably the only prevailing practice which has been shown to be harmful in part and outmoded as a whole by most major professional organizations and leaders in art education.[10]

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[6]Albert W. Beck, "Loss of Reason--Lack of Structure," School Arts, 69:24-5, October, 1969.

[7]Robin Klassnik, "Art Room Happening," Times Educational Supplement, 2857:20, February 20, 1970.

[8]Viktor Lowenfeld, Creative and Mental Growth (4th ed.) (New York: The Macmillan Company, 1964), p. 10.

[9]Lee Lewin, "The Gentle Art of Non-Teaching," Education Digest, 35:24-5, September, 1969.

[10]Howard Conant, Art Education (Washington, D.C.: The Center for Applied Research in Education, 1964), p. 34.

"Traditionally, education has placed students in a passive role. This passive role assumes that students learn in similar ways . . . interest is collective rather than individual."[11]

THE UNSTRUCTURED, NON-DIRECTIVE APPROACH

Learning is most likely to happen when teacher and student share the responsibility of selecting and implementing a learning program.[12] A study conducted by Max Rennels of Illinois State University, divided a class into two groups attempting to compare two methods for teaching spatial relationships to elementary aged disadvantaged black students. One method was traditionally oriented, while the other incorporated as much student participation as was possible. The method employing the student participation proved to be superior.[13] If we force an individual to act according to someone else's values, we limit his creative ability.[14] "The most effective teaching results when the principle taught, coincides with a desire or interest on the part of the child."[15] Albert Beck of the Kansas City Art Institute was perhaps the most strongly

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[11]Bill M. Clark and Marl E. Ramsey, "Why Small Group Instruction," NASSP Bulletin, 57:64-71, January, 1973.

[12]John Milembo, When Learning Happens (New York: Shocken Books, 1972), p. 240.

[13]Max Raymond Rennels, "Two Methods of Teaching Spatial Tasks to Disadvantaged Negroes," Studies in Art Education, 11:44-51, Fall, 1969.

[14]John F. Feldhuson and Sandra K. Hobson, "Freedom and Play: Catalysts for Creativity," Elementary School Journal, 73:148-55, December, 1972.

[15]D'Amico, op. cit., p. 30.

in favor of a non-directed, non-structured classroom of all the writers who were researched. He thought that students' ideas most certainly could flourish without direction from the teachers' "adult valued stimulus."[16]

> If one values himself, believes himself to be capable and generally expects to succeed in what he attempts, he is more free to venture into the unknown, challenging himself with new goals . . . he may then discover new strengths and new potential within himself.[17]

The advantages and disadvantages of the directive approach as well as the advantages of the non-directive approach have already been discussed, but the only real disadvantages that have been discovered by the researcher about the non-directive approach are that it seems to be somewhat "laissez-faire" or not goal oriented and therefore the effects cannot be directly measured. Whatever effects can be measured, cannot be directly attributed to the non-structured approach.

BLENDING OF THE TWO APPROACHES

What are the things that Art Educators can agree upon? Most seem to agree with the following statements. "Art is a necessary part of the general or liberal education. It is indeed needed to humanize a scientifically oriented and mechanized world."[18]

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[16]Beck, loc. cit.

[17]Dorothy Sisk, "Relationship Between Self-Concept and Creativity: Theory into Practice," Gifted Child Quarterly, 16:229-34, Fall, 1972.

[18]Leon Frankston, "Toward Aesthetic Education," Art Education, 23:18-9, November, 1970.

> Life without art lacks excitement, it is unembellished, unenriched, unenlightened, and unexhilarating: it is not fully civilized and lacks the full, fresh consciousness of which human beings are supremely capable.[19]

"In order for individuals to function effectively in a changing world, creativity is a necessary process that must be more fully developed."[20]

One writer blended the two approaches by first requiring a firm technical and academic foundation, then stressing the creative aspect of art production.[21] Another wrote:

> . . . the result of too much freedom is little or no frame of reference or orientation within which to evaluate and guide experience. Too much discipline results in overly tight, needlessly repetitive academic exercises which stiffle development rather than lead it forth.[22]

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[19]Conant, op. cit., p. 25.

[20]Barbara Holstein, "Use of the Metaphor to Induce Innovative Thinking in Fourth Grade Students," Education, 93:56-60, September, 1972.

[21]William G. Clark, "You Can't Weld in a Mini-Skirt," School Arts, 70:22-5, October, 1970.

[22]Grace Ranke, "Some Thoughts on Teaching Art," Art Journal, 30 #3:269-70, Spring, 1971.

Chapter 3

TEST PROCEDURE

This study was basically concerned with measuring the long term and short effectiveness of two contrasting teaching approaches. Chapter 3 is a description of the test procedure. In order to fully describe the test program and the differences between the two approaches as they applied to the material taught, the researcher has treated this information generally in this chapter and more specifically in the Appendix.

Description of Test Groups

The study was conducted at a middle school on the south side of Kansas City, Kansas. The school has an enrollment of eight hundred which were approximately equally dispersed between sixth, seventh, eighth and ninth grades. Of the total enrollment, 71 percent of the students were white, 17 percent of the students were black, and 12 percent of the students were Mexican-American. Thirty-eight percent of all students qualified for the federally subsidized free lunch program.

Art was required for one semester during both the sixth and seventh grade years. Approximately one-fourth of all sixth graders and one fourth of all seventh graders were involved in one of the test groups. Students involved in the test program were divided into two groups, depending on which classes they

happened to be enrolled in. Identical material was covered in both test groups, the difference being in the method of presentation of material to the groups. To one group (hereafter designated Group I), material was presented in a directive fashion, while to the other group (hereafter designated Group II), identical material was presented in a non-directive manner.

Description of Test Program

What was to be taught to the test groups was largely determined by a curriculum guide which had been prepared for the school system. The order of the presentations and the specific learning activities were determined by the researcher so as to cover the required material in such a manner that examples collected could be used to test the hypotheses.

The study was conducted over a period of ninety class sessions, each of which was one hour and seventeen minutes in length. During the first forty-five sessions, learning activities were arranged so that they could be presented to Group I via the directive approach for the most part, and could be presented to Group II mostly in a non-directive manner. During the second forty-five days, no new art concepts were presented to either test group. Instead, work during this half of the test period was spent in making art and included the production of five projects, working in various art areas. During this period, the instruction was concerned more with handling materials, presenting specific techniques, and reinforcing art concepts, rather than presenting new ones. Classes were much more loosely structured and all groups

were treated in the same manner, which was highly directive at times and open at others. The effectiveness of the approaches in question applied only to the material as it was covered during the first nine weeks of instruction. The second nine weeks of work was used as a means by which to measure the long term effectiveness of the two approaches, in terms of student achievement.

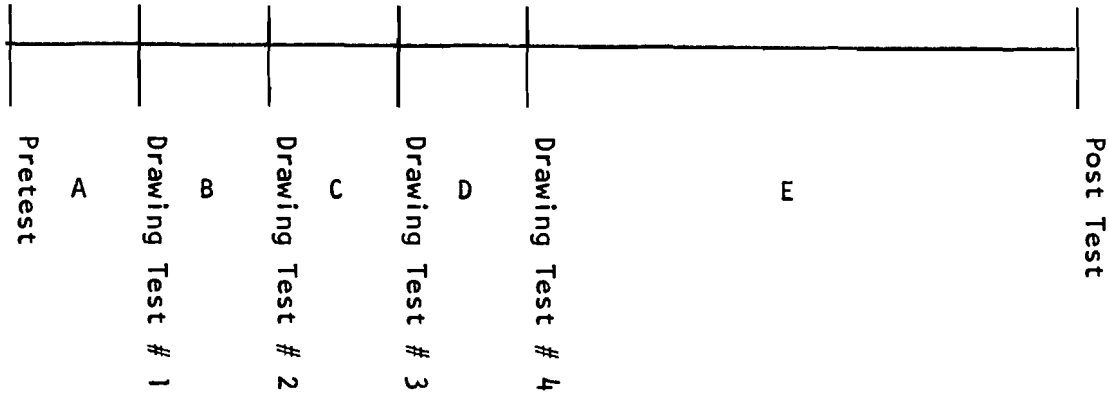
For the sake of insuring continuity of the concepts presented (which had to be done as concisely as possible), material was organized into the following four major unit areas: (1) Developing and Communicating the Art Idea, (2) Learning to See and Respond to What We See, (3) Communicating with Various Media, and (4) Composing and Arranging the Idea Visually. The relationship of these units of instruction to drawing tests, which will be discussed next, is shown in Table 1, on page 15. Additional information concerning what specifically was taught during each unit of instruction may be found in Appendexes A, B, C and D, which correspond to the first, second, third and fourth instruction units, respectively. Appendexes A, B, C and D also deal with differences in directive and non-directive approaches.

Description of Drawing Test Series

Pretests, four regularly scheduled drawing tests, and a posttest were the basis for studying the effectiveness of the two contrasting approaches. The effectiveness of a certain approach was judged solely on individual student's improvement rather than on his rank in the class or how he ranked with other students of the same age level.

Table 1

Ninety Class Sessions



A. Developing and Communicating the Art Idea

B. Learning to See and Respond to What We See

C. Communicating with Various Media

D. Composing and Arranging the Subject Idea

E. Materials, Techniques and Reinforcement of Previously Learned Concepts. (Concepts covered after Drawing Test # 4 were used in this study only to measure the long term effectiveness of a particular approach.)

Improvement in individual student's work was judged by a panel of art teachers on the basis of a series of drawing "tests." The entire series included six such drawing "tests," each of which was two class period drawings. Students were to demonstrate in their pictures an understanding of the art concepts presented in the preceeding unit (units). All drawing "tests" were presented identically to both Group I and Group II. Specific information concerning the subject matter for these drawings can be found in Appendix E.

Chapter 4

ANALYSIS OF DATA

In order to insure an unbiased evaluation in judging the drawing tests, a panel of four experienced junior high school art teachers was chosen to make comparisons. Two comparisons were made for each student's examples. The first was a comparison of the pretest to Drawing Test # 4 and was used to measure the immediate effectiveness of the two approaches. The second was a comparison of the pretests to the post-test, and was used to measure the long term effectiveness of the two approaches. Drawing tests numbered 1, 2 and 3 were also shown to the panel. These tests served no purpose, however, other than to help the judges make the comparison between the pretest and the fourth drawing test and to remind the judges what had been covered in class. Judges made their comparisons based on an accumulation of the material presented in each of the instruction units. On each comparison, each judge categorized teh student's improvement as being (1) regression, (2) no change, (3) slight improvement, or (4) very much improvement. Identification numbers were randomly selected for examples so that judges could find no relationship either between number and student or number and group. (Appendix F is a table showing each student's name, group and identification number. Appendexes G, H, I and J are the judges' appraisal sheets.) Results

were then tabulated and fitted to various Chi-Square Contingency Tables. Before the hypotheses were tested, correlation was determined between the judges' responses.

DESCRIPTION OF THE TEST INSTRUMENT

Analyzing the data involved three separate procedures; correlating the judges' responses through the use of the Spearman Correlation Coefficient and testing the two hypotheses using the Chi-Square Contingency Tables.

Spearman Correlation Coefficient

The researcher felt the judges might have difficulty in determining (particularly in junior high students' work) what constituted improvement in the examples. A Spearman Correlation Coefficient, therefore, was determined for each possible combination of judges to establish a relationship between the judges' responses. The formula used for this purpose was:

$$r_s = 1 - \frac{6\ d^2}{N^3 - N}$$

where N = number of responses and,
d = difference in judges' responses.

Using this formula, 1 is the highest possible value of r, and smaller values denote correspondingly less correlation. Table 2 illustrates the correlation coefficient between each possible combination of judges for their comparisons of the Pretest to Drawing Test # 4. Table 3 illustrates similar correlations for judges' comparisons of the Pretest to the Post-Test.

Table 2

	Judge #1	Judge #2	Judge #3	Judge #4
Judge #1		.9984488	.9967172	.9979798
Judge #2			.9969697	.9977634
Judge #3				.9980159
Judge #4				

Table 3

	Judge #1	Judge #2	Judge #3	Judge #4
Judge #1		.9971145	.9968976	.9978355
Judge #2			.9977273	.9972944
Judge #3				.9975109
Judge #4				

As the lowest correlation coefficient in any of these twelve comparisons was .9967, good correlation between the judges was assumed.

The Chi-Square Contingency Table

The Chi-Square contingency table method was selected by the researcher at the .05 level of significance, to test the hypotheses. "By means of the X^2 test it is possible to test the

hypothesis that the two variables are independent."[23] The two variables in this case being method of presentation and achievement. Should the result of applying the data to the X^2 formula be lower than the table value of X^2 at the appropriate level of significance and using the appropriate degrees of freedom, then it could be said that there was no significant relationship between the method of presentation and the achievement, and the null hypothesis would be accepted. If, however, the X^2 value is higher than the table value of X^2, then it could be said that there was a significant relationship, and the null hypothesis would be rejected. The Chi-Square formula is:

$$X^2 = \frac{(o - e)^2}{e}$$

where o is the number of observed frequencies and e is the number of expected frequencies. In order to determine the expected frequency in each cell of the contingency table, a ratio was determined by dividing the population of each group by the total population. This ratio was then multiplied by the total number of frequencies in each category and placed in the appropriate cell. The degree of freedom to be used was determined by the formula:

$$v = (r - 1)(c - 1)$$

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[23]Paul Hoel, Elementary Statistics (New York: John Wiley and Sons, Incorporated, 1967), p. 241.

TEST OF HYPOTHESIS 1

The hypothesis as stated was, "There is no significant difference in short term achievement of students when material is presented via a directive method as opposed to being presented in a non-directive manner." In testing this hypothesis, each of the four judges will be treated independently.

Judge # 1

Tabulation of Judge # 1's first comparison resulted in the following Chi-Square Contingency Table:

Table 4

	Regress	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	7 (5)	8 (7)	9 (12)	1 (1)	25
Non-Directive Group	3 (5)	8 (9)	17 (14)	2 (2)	30
Totals	10	16	26	3	55

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(7 - 5)^2}{5} + \frac{(8 - 7)^2}{7} + \frac{(9 - 12)^2}{12} + \frac{(1 - 1)^2}{1} + \frac{(3 - 5)^2}{5}$$

$$+ \frac{(8 - 9)^2}{9} + \frac{(17 - 14)^2}{14} + \frac{(2 - 2)^2}{2}$$

or

$$X^2 = .8 + .14 + .75 + .8 + .11 + .64$$

or

$$X^2 = 3.24$$

From X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 3.24 is less than 7.81, the hypothesis is accepted.

Judge # 2

Tabulation of Judge # 2's first comparison resulted in the following Chi-Square Contingency Table:

Table 5

	Regress	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	7 (5)	8 (7)	8 (10)	2 (3)	25
Non-Directive Group	3 (5)	7 (8)	16 (12)	4 (4)	30
Totals	10	15	24	6	55

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(7 - 5)^2}{5} + \frac{(8 - 7)^2}{7} + \frac{(8 - 10)^2}{10} + \frac{(2 - 3)^2}{3}$$

$$+ \frac{(3 - 5)^2}{5} + \frac{(7 - 8)^2}{8} + \frac{(16 - 12)^2}{12} + \frac{(4 - 4)^2}{4}$$

or

$$X^2 = .8 + .14 + .4 + .33 + .8 + .13 + 1.25$$

or

$$X^2 = 3.85$$

From X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 3.85 is less than 7.81, the hypothesis is accepted.

Judge # 3

Tabulation of Judge # 3's first comparison resulted in the following Chi-Square Contingency Table:

Table 6

	Regression	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	5 (5)	5 (5)	8 (7)	7 (8)	25
Non-Directive Group	6 (6)	6 (6)	8 (9)	10 (9)	30
Totals	11	11	16	17	55

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(5 - 5)^2}{5} + \frac{(5 - 5)^2}{5} + \frac{(8 - 7)^2}{7} + \frac{(7 - 8)^2}{8}$$

$$+ \frac{(6 - 6)^2}{6} + \frac{(6 - 6)^2}{6} + \frac{(8 - 9)^2}{9} + \frac{(10 - 9)^2}{9}$$

or

$$X^2 = .14 + .13 + .11 + .11$$

or

$$X^2 = .49$$

From X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As .49 is less than 7.81, the hypothesis is accepted.

Judge # 4

Tabulation of Judge # 4's first comparison resulted in the following Chi-Square Contingency Table:

Table 7

	Regression	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	3 (3)	7 (7)	12 (12)	3 (3)	25
Non-Directive Group	3 (3)	9 (9)	14 (14)	4 (4)	30
Totals	6	16	26	7	

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(3 - 3)^2}{3} + \frac{(7 - 7)^2}{7} + \frac{(12 - 12)^2}{12} + \frac{(3 - 3)^2}{3}$$

$$+ \frac{(3 - 3)^2}{3} + \frac{(9 - 9)^2}{9} + \frac{(14 - 14)^2}{14} + \frac{(4 - 4)^2}{4}$$

or

$X^2 = 0.$

From the X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 0 is less than 7.81, the hypothesis is accepted.

On the basis of four out of four judges' concurrence, the null hypothesis is accepted.

TEST OF HYPOTHESIS 2

The hypothesis as stated was, "There is no significant difference in long term achievement of students when material is presented via a directive method as opposed to being presented in a non-directive manner." In testing this hypothesis, each of the four judges will be treated independently.

Judge # 1

Tabulation of Judge # 1's second comparison resulted in the following Chi-Square Contingency Table:

Table 8

	Regression	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	1 (0)	10 (10)	9 (9)	5 (5)	25
Non-Directive Group	0 (1)	12 (12)	12 (11)	6 (6)	30
Totals	1	22	21	11	55

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(1 - 0)^2}{0} + \frac{(10 - 10)^2}{10} + \frac{(9 - 9)^2}{9} + \frac{(5 - 5)^2}{5}$$

$$+ \frac{(0 - 1)^2}{1} + \frac{(12 - 12)^2}{12} + \frac{(12 - 11)^2}{11} + \frac{(6 - 6)^2}{6}$$

or

$$X^2 = 1.09.$$

From the X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 1.09 is less than 7.81, the hypothesis is accepted.

Judge # 2

Tabulation of Judge # 2's second comparison resulted in the following Chi-Square Contingency Table:

Table 9

	Regression	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	2 (2)	7 (5)	12 (8)	4 (10)	25
Non-Directive Group	2 (2)	5 (7)	6 (10)	17 (12)	30
Totals	4	12	18	21	55

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(2-2)^2}{2} + \frac{(7-5)^2}{5} + \frac{(12-8)^2}{8} + \frac{(4-10)^2}{10}$$

$$+ \frac{(2-2)^2}{2} + \frac{(5-7)^2}{7} + \frac{(6-10)^2}{10} + \frac{(17-12)^2}{12}$$

or

$$X^2 = .8 + 2 + 3.6 + .57 + 1.6$$

or

$$X^2 = 8.57.$$

From the X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 8.57 is more than 7.81, the hypothesis is rejected.

Judge # 3

Tabulation of Judge # 3's second comparison resulted in the following Chi-Square Contingency Table:

Table 10

	Regression	No Change	Slight Improvement	Very Much Improvement	Total
Directive Group	4 (2)	3 (4)	6 (5)	12 (14)	25
Non-Directive Group	1 (3)	5 (4)	6 (7)	18 (17)	30
Totals	5	8	12	30	55

$$X^2 = \frac{(o-e)^2}{e}$$

$$X^2 = \frac{(4 - 2)^2}{2} + \frac{(3 - 4)^2}{4} + \frac{(6 - 5)^2}{5} + \frac{(12 - 14)^2}{14}$$

$$+ \frac{(1 - 3)^2}{3} + \frac{(5 - 4)^2}{4} + \frac{(6 - 7)^2}{7} + \frac{(18 - 17)^2}{17}$$

or

$$X^2 = 2 + .25 + .2 + .29 + 1.33 + .25 + .14 + .06$$

or

$$X^2 = 4.52.$$

From the X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 4.52 is less than 7.81, the hypothesis is accepted.

Judge # 4

Tabulation of Judge # 4's second comparison resulted in the following Chi-Square Contingency Table:

Table 11

	Regression	No Change	Slight Improvement	Very Much Improvement	Total
Directive	1 (0)	4 (4)	13 (13)	7 (7)	25
Non-Directive	0 (1)	5 (5)	16 (16)	9 (9)	30
Totals	1	9	29	16	55

$$X^2 = \frac{(o - e)^2}{e}$$

$$X^2 = \frac{(1-0)^2}{0} + \frac{(4-4)^2}{4} + \frac{(13-13)^2}{13} + \frac{(7-7)^2}{7}$$

$$+ \frac{(0-1)^2}{1} + \frac{(5-5)^2}{5} + \frac{(16-16)^2}{16} + \frac{(9-9)^2}{9}$$

or

$$X^2 = 1.$$

From the X^2 table, the critical value of X^2 @ .05 level of significance, and 3 degrees of freedom is 7.81. As 1 is less than 7.81, the hypothesis is accepted.

On the basis of three out of four judges' concurrence, the null hypothesis is accepted. Table 12 is a summary of all judges' decisions on both questions.

Table 12

	Hypothesis 1	Hypothesis 2
Judge # 1	accept (3.24)	accept (1.09)
Judge # 2	accept (3.85)	reject (8.57)
Judge # 3	accept (.49)	accept (4.52)
Judge # 4	accept (0.)	accept (1.)

The number in parentheses is the value of X^2 calculated from data received from each judge.

Chapter 5

FACTORS, CONCLUSIONS AND RECOMMENDATIONS

Review of Study

The purpose of this research was to measure and assess the merits of a relatively directive approach of presenting material compared to a relatively non-directive approach to presenting material. Test groups involved were composed of sixth and seventh grade students in Kansas City, Kansas.

A test program was developed so that the researcher could present material to one group in a "directive" manner and present the same material "non-directively" to another group. The entire test period was eighteen weeks. Concepts pertaining to two-dimensional art were presented for the first nine weeks. Comparisons by a panel of art teachers, of students' drawings before and after this nine week period, was the basis for determining the short term effectiveness. An additional drawing was made at the end of the eighteen week period. The judges' comparison of this drawing to the one made at the beginning of the test period was the basis for determining long term effectiveness.

Conclusions

On the basis of the accumulated evidence from this research, it could not be said that there is any significant difference between

the two approaches as it pertained to short term effectiveness. All of the judges concurred unanimously.

On the question of long term effectiveness, however, the evidence was not as conclusive. Although the hypothesis was accepted, the judges were not unanimous in their decision. Three of four judges agreed that there was no significant difference in the two approaches. One judge's comparisons revealed a significant difference, however. Examination of Table 9 indicates the superiority of the non-directive approach, in that judge's estimation.

The accepted hypotheses read: (1) There is no significant difference in learning achievement when material is presented via a directive method as opposed to being presented via a non-directive method. (2) There is no significant difference between short term achievement and long term achievement when these two teaching methods are used with two groups.

Factors That Seemed to Affect the Study

There were a number of factors which might have directly or indirectly affected this research. Among them were:

(1) It was necessary that the same concepts were presented to both groups. Altering one assignment and making it be directive to one group and open to the other was restrictive to both approaches.

(2) Attendance problems at the end of the school year may have affected the results as this caused many students to not complete the drawing test sequence. There was approximately 60 percent attendance during the last half week of school when the post-test was administered.

(3) The time of day at which the various classes were conducted might have affected the results of the research. Non-directive classes were conducted in the morning while directive classes were conducted in the afternoon. The level of the students' concentration was higher in the morning than in the afternoon.

(4) Other teachers in the building might have affected the results of the research. Whereas some students were coming to the directive groups from directive teachers, others were coming from "open-concept" teachers.

Recommendations for Further Research

Although the results of this research were revealing to the researcher (with possible implications for Art Education), there are a number of questions yet to be answered and a number of conclusions yet to be made. Several slight alterations of this procedure might make the results more revealing.

(1) The researcher observed the same effect as was observed by Earl Ogletree (discussed on page 7) in the non-directive test groups. Although the timing was different, it was parallel. The alternative groups (directive groups) were very cooperative in the beginning but became rather defiant toward the end of the test period. Assuming that attitude toward the program through which a student produces work, eventually affects the quality of that work, appropriate research might be to conduct similar research and include some type of attitude inventory.

(2) In order to better understand the relationship of this research to the total educational system, conduct similar research with different age level students.

(3) In order to obtain more accurate results, conduct similar research employing a greater number of judges.

(4) One judge remarked on her appraisal sheet that drawing tests 1, 2 and 3 "show definitely interesting developments--which are not always seen in post-test." In order to obtain more meaningful comparisons from the judges, conduct similar research, employing a more complete battery of "drawing tests" throughout the entire test period.

APPENDIX

APPENDIX A

UNIT A: DEVELOPING THE ART IDEA

The assignments during this unit of instruction were all "Draw me a Story." Individual ideas for stories were developed through a chance art system, resulting in each student's having his own unique story to communicate. The role of the chance system, as it was used, was to help the student to formulate a mental image which would serve as the idea for the picture. Later assignments would involve less and less reliance on the chance system and more and more reliance on the student's own mental process, as the basis for the idea of the picture.

More specifically, the initial chance system worked as follows. Students first tore scrap paper into eight equally sized pieces, numbering each one through eight. Papers were then folded and placed in piles in front of each student. Students then drew one number and marked that number at the top of their drawing paper, folded it and returned it to the pile. After drawing three times, students were shown the following three lists.

List A	List B	List C
1. hospital	1. cop	1. was shot by _____.
2. health spa	2. fireman	2. ran because _____.
3. prison	3. mailman	3. jumped because _____.
4. church	4. preacher	4. fainted when he saw _.

5. museum	5. carpenter	5. was scared by _____.
6. shopping center	6. doctor	6. got sick when he ____.
7. train station	7. mechanic	7. was hit by _____.
8. bank	8. football player	8. fell in love when he saw _____.

If the first number that the student drew was three, then he used the word "prison" to fill in the first blank of his sentence. If the second number was four, then he used the word "preacher" to fill the second blank of the sentence. If the third number was four, then he used the phrase "fainted when he saw _____" to fill in the third blank in the sentence. All students used the sentence: On the way to the ___(1)___, the ___(2)___ ___(3)___. If the student drew the numbers three, four, four, his sentence would then read: On the way to the prison, the preacher fainted when he saw _____. Each student would then complete the sentence which would be the title for his picture. At the completion of the two day drawing, a short critique session was held.

These discussion periods were followed by a similar drawing assignment except this time there were only two blanks and a longer phrase for the students to fill in.

The final drawing assignment in this unit was what we called a "Where did who do what" picture. On this assignment, students were shown a sequence of thirty slides. Some of the slides were of people doing things, others were scenery of different places at different times. Slides were shown at approximately fifteen second intervals, while students were compiling three separate

lists. The first list was a list of "who's" and consisted simply of different special people. The second list was "where's" and consisted simply of different special places. The third list was of "what's" and consisted of special activities. At the conclusion of the slide presentation, students were to choose one item from each list and construct a sentence which would be the basis for their picture.

Applications of the Directive Approach vs. the Non-Directive Approach

For the earlier "Chance System" pictures in this unit, there were basically two alterations which were made to make the presentations either relatively directive or relatively non-directive. The first difference was that directive groups used my lists for completing each of the blanks in their sentences. Non-directive groups made their own lists as a class, prior to beginning the assignment. In this manner, students in these groups were more actively involved in the planning phase of the assignment. The second difference was the manner in which the critique session was conducted. A lecture was presented to the directive groups, using teacher selected student work and a series of overhead visuals as examples. Students in these groups were placed in somewhat of a passive role in the critique session in contrast to the students in the non-directive test groups.

In the non-directive groups the discussion period was much more student oriented. The same overhead visuals were used and the same concepts talked about, however, they were not presented in a lecture fashion. Student examples were chosen by other

members of the group and overheads were shown as they came up in the discussion.

Presentation from the directive group to the non-directive group also varied in the "Where did Who do What" assignment.

Slides were organized into three categories for the directive groups (scenes, people, and activities). Lists that the students made were limited to ten items for each list of things that they actually saw in the slides.

For the non-directive groups, the slides were put into one pile and shown randomly. Students were instructed to complete the lists with as many "where's," "who's," or "what's" as they could. Items for their lists could either be what they actually saw or what the slides made them think of.

This assignment was followed by a review of everything that we had previously covered. In the directive groups this review was a prepared lecture and in the non-directive groups this review was an open discussion. The review session was followed by the first drawing test.

APPENDIX B

LEARNING TO RESPOND TO WHAT WE SEE

During the second two weeks of instruction, we continued developing previously discussed concepts but were now placing most of our emphasis on increasing sensitivity in terms of what we are able to see and how to record it. The first of a series of short exercises was to draw seven coke cans, making one appear to be as close as possible, one appear to be as far away as possible, and the other five somewhere in between. No two coke cans could appear to be the same distance away.

In the directive groups, not only was an example shown, but also explicit directions were given as to how to complete the assignment.

In the non-directive groups, students were shown an example, given minimal directions and they began to complete the assignment. Each student had a large piece of paper which was divided into eight small sections, which allowed each student eight chances to experiment. Individual help was given as much as possible but only after a student asked for the help.

As a follow-up to this exercise, both directive and non-directive groups did one additional picture. Sixth graders drew a forest of seven trees, then added campers, lumberjacks, animals or whatever else they wanted to complete the picture. All seventh

graders in both groups drew a city of seven buildings, adding cars, people, motorcycles, or whatever they felt to complete the picture. This was the only assignment that was modified during the nine weeks of instruction. This was done because of the difference in drawing ability between the sixth and seventh graders.

Other learning activities included in this unit were: (1) Drawing objects without looking at the paper, (2) Copying slides which were shown upside down, (3) Showing the negative of a picture and having the students draw the positive, (4) Copying blown up details of a slide then copying the whole picture, (5) Using magnifying glasses to copy stamps and coins, (6) Drawing series of pictures in sequence showing one complete action.

The difference in the presentations from the directive groups to the non-directive groups, for each of these assignments, was basically the number of directions given during the presentations. Directions given to the non-directive groups were kept to an absolute minimum and activities were presented as much as possible as being games. In contrast, the directive groups were given explicit directions, including what they were supposed to learn by doing the exercises. Directive groups were constantly reminded that even though some of the exercises might be fun, that we were doing them for a serious reason which was either to increase their ability to be observant or to increase their ability to record what they observed.

APPENDIX C

COMMUNICATING WITH VARIOUS MEDIA

The purpose of this unit was to isolate the student's attention on learning to use various materials in communicating his idea in a picture. Work to this point has emphasized developing an idea and during this unit we began to emphasize techniques in applying various materials to their idea.

During this unit, students completed three sets of six pictures. All six pictures in each set were identical except for the media. Each set included one pencil drawing, one water color, one tempera painting, one pastello drawing, one pen and ink drawing, and one picture which combined any two of the above materials.

The first two sets of pictures in this series were "coloring book exercises," for which students were each given six mimeographed drawings and simply completed them in the appropriate media. The first of the two "coloring book exercises" offered the student a lot of direction in terms of what the picture would be, and thus allowed the student to focus his attention on the use of the materials. The second "coloring book exercise" was a much less complete picture, and thus required that the student both expand the idea and expand his ability in communicating via the various media. For the third set of pictures all the students were given six blank pieces of paper. The only requirements were that all six pictures had to be

of the same thing, that pictures had to be produced with the same materials as before, and that each student must spend at least fifteen minutes formulating an idea for the series of pictures.

Basically, the contrast in the two methods of presentation was in the number of directions given to contrasting groups, and the manner in which the directions were given. One group was left to explore the use of the various materials while the other group was given detailed directions as to how to use each of the various materials. Demonstrations were conducted to the directive groups, showing various techniques with the different materials. Examples were left hanging on a bulletin board in the classroom for the non-directive groups to see, but were not discussed. When a student asked how a certain things was done, that technique was demonstrated for that individual student. When a second student asked the same question, he was directed to the student who had originally asked and that student responded to the question.

APPENDIX D

PRESENTING THE VISUAL IDEA

Assignments during this unit of instruction were designed to add to and broaden previously learned concepts. Emphasis was placed on certain aspects of design. Among these were: (1) rhythm, (2) balance, (3) unity, (4) emphasis, (5) frame of reference, (6) arrangement of the page, and (7) proportion. Assignments consisted of three two-class-period drawings and one three-class-period drawing. For the first three drawings, students were shown a badly organized slide and were asked to re-arrange it. For the fourth drawing, students were to develop their own idea and, prior to making the picture, make four sketches organizing the picture differently each time. Each student was to then choose the best arrangement and complete his picture.

In the directive groups, all concepts were discussed in lecture fashion, each student being required to take notes, before beginning the first picture. Instruction thereafter was made as much as possible to the group rather than to individuals in the group.

In the non-directive groups, the class was simply instructed that they were about to be shown a slide that was arranged badly and that they were to re-arrange the slide making it better.

Instruction, thereafter, was made as much as possible to individuals rather than collectively to the group.

APPENDIX E

THE DRAWING TEST SEQUENCE

Improvement in individual student's work was judged by a panel of art teachers on the basis of a series of drawing "tests." The first and last of the drawings in this series was "A Self Portrait in Ten Years." The pretest was administered on the second and third days of the semester while the post-test was administered on the eighty-ninth and ninetieth days of the semester. A two-day drawing "test" was given at the end of each of the four two week units of study.

Drawing Test # 1

Drawing test # 1 was a "Where did Who do What Drawing," as described as the last learning activity of the first two week unit of instruction. The stimulus for students' making lists was the first of a series of perception filmstrip sets which would be presented prior to each drawing test. Presentations to both the "directive" and "non-directive" test groups were identical. Each perception filmstrip set consisted of two filmstrips with accompanying records. The perception set presented for the first test was entitled "The City" and described various people going about their daily activities in various sections of the city.

Drawing Test # 2

Drawing test # 2 was identical to the first drawing test except that the preceding perception presentation was entitled "The West." Visual material in this set contrasted the Rocky Mountains to Disneyland, Las Vegas to the deserts of the southwest, and Los Angeles to historic ghost towns. Activities included Indians running from the calvary, cowboys branding calves, people riding dune buggies, people sunning, and the rodeos.

Drawing Test # 3

For drawing test # 3, two perception sets were combined and presented in a disorganized fashion. The two sets included "The Birds" and "The Ocean." While the records accompanying "The Ocean" were played, the filmstrips "The Birds" were shown. "The Ocean" filmstrips were shown on a second screen at the same time on a reading machine set at its slowest position. Students had to constantly move their eyes from one screen to the other in order to keep up with the visual material. Many more mental associations were possible than in previous perception presentations. Students were to make "Who," "What," and "Where" lists and use them as they had on previous drawing tests.

Drawing Test # 4

No perception set was presented prior to this test. Students were to rely solely on their inventiveness as the basis for the idea of this picture. The title of the picture was to be "Some Part of the World Through the Eyes of _____." During the presentation (identical for both the directive and non-directive

groups) the following examples were cited: What would a worm look like to a fish? What would a fish look like to a worm? What would a hawk look like to a mouse? What would a mouse look like to a hawk? What would a person look like to a goldfish, or a parakeet? What would a burglar look like to a watchdog as compared to his master? What would a bank look like to a robber as opposed to a policeman?

Students were to complete the "Who," "What," and "Where" lists as before and begin their picture.

APPENDIX F

STUDENT NAMES, GROUPS AND IDENTIFICATION NUMBERS

1 Almaree Adair - D
15 Suzanna Ash - D
111 Toni Scott - D
14 Debbie Hammer - D
118 Sheila Huggins - D
7 Gary Day - ND
132 Becky Hellwig - D
25 Kim Harris - D
18 Karen Harp - D
16 Rosa Dominguez - D
23 Christine Madrigal - D
39 Mary Henness - ND
33 Mark Purdome - ND
178 Tony Gates - ND
6 Karen Douglas - D
68 Gerry Buford - D
159 Yvonne Rowland - D
99 Donna Utterback - D
122 Rhonda Kriley - ND
82 Raul Roblez - D

32 Junior Allred - ND
130 Cheryl Baker -- ND
51 Robin Brock - ND
120 Lou Ann Babcock - ND
10 Tammy Miller - ND
20 Vicki Warren - D
37 Kevin Thronton - D
131 George Colston - ND
30 Brenda Stallings - ND
119 Merchel McDaniel - D
81 Maudel Cole - ND
65 Susan Sullivan - ND
38 Karen Thomas - ND
19 Cleo Reynolds - D
4 Lester Fare - ND
29 Sheila Spears - D
157 Jon Kimbrough - ND
121 John Salizar - ND
32 Janet Wentz - D
101 Sheila Buchanan - ND
17 Shelly Sunderland - ND
156 Mary Cain - ND

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131 Debbie Pendergrass - ND
29 Martha Henness - ND
12 Debbie Hammer - D
128 Rachel Harris - ND
67 Lori Monuz - ND
35 Cinda Pierce - D

158 Becky Mejia - D
129 Julie Rocha - ND
76 Donan Williamson - ND
31 Ernest Hickman - ND
12 Sammy Stone - D
27 Rhonda Kriley - ND
22 Willie Hudson - ND

APPENDIX G

LOUISE WOODARD'S ART APPRAISER WORKSHEET

	Pretest to D.T.#4				Pretest to Post-test					Pretest to D.T.#4				Pretest to Post test			
ID#	R	NC	SI	VMI	R	NC	SI	VMI	ID#	R	NC	SI	VMI	R	NC	SI	VMI
1	X					X			67		X				X		
15	X				X				35		X				X		
111			X				X		32			X			X		
14			X					X	130			X				X	
118			X			X			51		X				X		
7			X					X	120			X				X	
132			X				X		10			X					X
25		X				X			20		X					X	
18		X						X	37	X						X	
16		X				X			131			X				X	
23			X			X			30			X				X	
39	X					X			119			X				X	
33		X						X	81			X				X	
178		X				X			65	X					X		
6				X			X		38	X					X		
68	X							X	19	X						X	
159	X							X	4			X				X	
99		X					X		29		X				X		
122		X				X			157			X				X	
82	X						X		121			X				X	
137			X					X	32			X			X		
29		X				X			101		X				X		
12			X					X	17				X				X
128		X				X			156				X				X
158		X				X			129			X				X	
76			X				X		31			X				X	
12			X			X			27			X			X		
22			X				X										

APPENDIX H

KATHY OWENS' ART APPRAISER WORKSHEET

	Pretest to D.T.#4				Pretest to Post-test					Pretest to D.T.#4				Pretest to Post-test			
ID#	R	NC	SI	VMI	R	NC	SI	VMI	ID#	R	NC	SI	VMI	R	NC	SI	VMI
1	X						X		67		X						X
15		X					X		35			X			X		
111		X					X		32			X					X
14			X				X		130				X				X
118			X				X		51			X				X	
7	X							X	120				X	X			
132			X					X	10			X					X
25		X					X		20		X				X		
18			X		X				37	X							X
16	X					X			131			X			X		
23		X				X			30		X						X
39		X				X			119			X			X		
33			X				X		81	X						X	
178			X					X	65			X					X
6		X						X	38			X				X	
68	X							X	19		X			X			
159	X						X		4			X					X
99		X					X		29	X						X	
122	X						X		157			X			X		
82	X						X		121				X				X
131		X						X	32				X			X	
29		X						X	101		X						X
12				X		X			17			X					X
128			X			X			156				X	X			
158			X			X			129			X					X
76			X				X		31			X					X
12			X				X		27		X				X		
22			X					X									

APPENDIX I

TERRY FERNETTI'S ART APPRAISER WORKSHEET

	Pretest to D.T.#4				Pretest to Post-test					Pretest to D.T.#4				Pretest to Post-test			
ID#	R	NC	SI	VMI	R	NC	SI	VMI	ID#	R	NC	SI	VMI	R	NC	SI	VMI
1	X						X		67			X					X
15				X				X	35		X				X		
111	X							X	32				X			X	
14			X					X	130				X				X
118				X	X				51			X					X
7		X					X		120		X				X		
132			X		X				10			X					X
25		X						X	20			X				X	
18	X							X	37			X					X
16				X	X				131		X						X
23				X				X	30	X							X
39	X					X			119		X					X	
33		X				X			81			X					X
178			X					X	65				X				X
6			X					X	38				X			X	
68	X							X	19	X						X	
159			X					X	4				X				X
99		X				X			29		X					X	
122		X						X	157	X							X
82			X			X			121				X				X
137			X					X	32				X				X
29	X						X		101				X				X
12			X					X	17			X					X
128	X							X	156				X	X			
158				X	X				129				X			X	
76		X				X			31				X			X	
12				X			X		27	X					X		
22			X					X									

APPENDIX J

JO SHRIVER'S ART APPRAISER WORKSHEET

	Pretest to D.T.#4				Pretest to Post-test					Pretest to D.T.#4				Pretest to Post-test			
ID#	R	NC	SI	VMI	R	NC	SI	VMI	ID#	R	NC	SI	VMI	R	NC	SI	VMI
1		X					X		67			X				X	
15			X				X		35		X				X		
111				X			X		32			X					X
14			X					X	130			X			X		
118			X				X		51		X					X	
7	X						X		120		X				X		
132				X		X			10			X					X
25	X							X	20		X					X	
18		X						X	37			X		X			
16			X				X		131			X				X	
23			X					X	30			X				X	
39	X							X	119			X				X	
33		X					X		81			X			X		
178		X						X	65				X			X	
6		X					X		38			X					X
68			X					X	19	X						X	
159	X					X			4		X				X		
99		X						X	29		X					X	
122		X					X		157		X					X	
182			X				X		121			X				X	
131			X					X	32				X			X	
29		X					X		101			X				X	
12			X					X	17				X				X
128	X					X			156			X				X	
158			X			X			129				X				X
76		X					X		31				X			X	
12			X				X		27			X				X	
22			X					X									

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