

A COMPARATIVE STUDY OF THE VALUE OF REGULAR ART
TEACHERS IN IMPROVING THE CREATIVITY
OF FIFTH GRADERS

By

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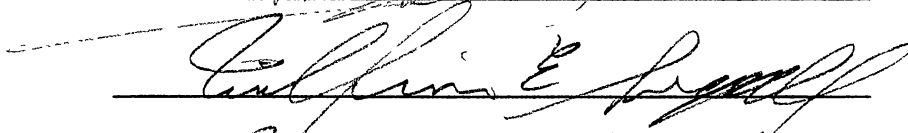
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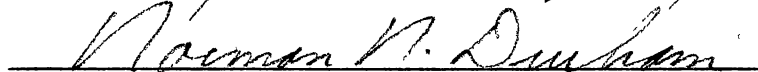
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PREFACE

This study is concerned with the creativity of fifth-grade students. The primary objective is to determine the value of regular art teachers in enhancing students' creativity at the elementary level.

The author wishes to express her deep appreciation to her major adviser, Prof. Audrey Eleanor Oaks, for her invaluable assistance and guidance throughout this study. Appreciation is also expressed to the other committee members, Prof. Elizabeth Max and Prof. William Segall, for their helpful criticism of the final manuscript.

The author would also like to thank the principals, teachers, pupils, and parents who cooperated with her in doing this study.

Finally, special appreciation goes to my husband, Woong, and to my daughter, Angela, for their understanding, encouragement, and continued support throughout my graduate program.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Purpose of the Study	1
H ₁ Hypothesis	2
H ₀ Hypothesis	2
II. REVIEW OF LITERATURE	3
III. METHOD	6
Subjects	6
Instrumentation	7
Procedure	7
IV. RESULTS	10
V. SUMMARY	13
Conclusions	13
Recommendations	14
BIBLIOGRAPHY	15
APPENDIXES	17
APPENDIX A - PARENTAL PERMISSION FORM	18
APPENDIX B - SPECIFIC INSTRUCTIONS FOR ADMINISTERING TEST ACTIVITIES	20
APPENDIX C - TABLES (STUDENT RESPONSES)	23

LIST OF TABLES

Table	Page
I. Comparison between Stillwater Schools (Aspects of Creativity)	23
II. Comparison between Ponca City Schools (Aspects of Creativity)	24
III. Comparison between Two Cities (Aspects of Creativity)	25
IV. Comparison between Stillwater Schools (Activities)	26
V. Comparison between Ponca City Schools (Activities)	27
VI. Comparison between Two Cities (Activities)	28

CHAPTER I

INTRODUCTION

According to Torrance (1979), "many people believe that creative qualities are either possessed or not possessed by their owner and that education can do very little to develop these qualities" (p. 9). However, a great deal of the research currently being reported indicates that the direct teaching of creative skills can produce better, more creative thinkers. In addition, some investigators (Davis, 1973; Torrance, 1980) have generated considerable support for the fostering of creativity through the alteration of classroom environments. However, no research on the possibility of enhancing creativity via an art teacher has appeared despite the availability of a wide range of creativity development models. The present research attempts to examine whether the existence of art teachers at the elementary level will affect their students' creativity.

Purpose of the Study

The purpose of this causal comparative study is to determine whether fifth-grade students who have had art teachers at all prior grade levels will obtain higher creativity test scores than those with no art teachers.

The results of this study will provide an important standard for determining the value of art teachers at the elementary level.

H₁ Hypothesis

1. Students who have had no art teachers will demonstrate no significant difference in creativity.
2. Students who have had art teachers will demonstrate no significant difference in creativity.
3. Students who have had art teachers and those with no art teachers will demonstrate significant differences in creativity.

H₀ Hypothesis

1. The fact that students have had no art teachers will make no difference in their creativity.
2. The fact that students have had art teachers will make no difference in their creativity.
3. Students who have had art teachers and those with no art teachers will demonstrate no significant difference in creativity.

CHAPTER II

REVIEW OF LITERATURE

The word "creativity" has different meanings for different people. "There are as many definitions of creativity as there are writers," says Tonemah (1987) (p. 187). Some writers define creativity in terms of the product, the production of something new. Guilford (1977) observed that creativity "leads to tangible products, such as a plan, a story, a poem, a painting, a musical composition, an invention, or a scientific theory" (p. 160). Mayesky and others (1980) regarded creativity as the ability to make "something that is original for the individual" (p. 2). Others like Andrews (1961) defined creativity in terms of the process: "Creativity is a process of individual experience which enhances the self. It is an expression of one's uniqueness. To be creative then is to be oneself" (95). Still others arrived at various working definitions on which to base their discussion of creativity. Getzels and Csikzentmihalyi (1967) defined creativity as "the posing of a problem as well as the action of trying to solve it" (82). Houtz and others (1983) pointed out that one's sensitiveness to beauty and the aesthetic characteristics of things was the most crucial characteristic of creativity (p. 168).

Such diverse ways of defining creativity suggest that the term describes not one individual quality but a sum total of different factors. In this regard, the present study favors Torrance's definition as one of the most comprehensive ones. Torrance (1974) referred to creativity as Fluency of ideas, Flexibility, Originality. He elsewhere defined creativity again as:

a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty: searching for solutions, making guesses, or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results.
(1974, p. 3)

This definition describes a natural human process, for strong human needs are involved at each stage. When we sense some incompleteness or disharmony, we feel uncomfortable and search for solutions to relieve the tension. Moreover, Torrance's definition is equally applicable to scientific, artistic, literary, dramatic, or interpersonal creativity (1974, p. 3).

A review of the literature reveals that creativity can be improved through potential experience or education. Researchers have used several methods to enhance the creative abilities of students. Huber and others (1979) demonstrated that the use of certain self-instructional materials had facilitative effects on the creative abilities of students. Davis (1973) and Torrance (1980) discovered that the alteration of classroom environments fostered creativity. Glover (1981) found that altering teacher

behavior. In regard to student behaviors defined as creative, significantly increased measures of creativity among students. Clements and others (1983) discovered that students with creative drama experience obtained higher creativity scores than those with little or no similar experiences.

However, little or no research has appeared on the possibility of enhancing creativity through regular art instruction by teachers specializing in the visual arts. Torrance and others (1971) experimented with a creativity workshop, which included exercise in the visual arts such as drawing and painting, for developing creative talent among disadvantaged children. Although Torrance demonstrated facilitative effects of the workshop on creativity development, we cannot be sure whether such effects were achieved only by exercise in the visual arts. Since the workshop included many other activities such as dramatics, dancing, storytelling, singing, puppetry, creative problem solving, sociodrama and photography. Neither is it certain whether this discovery, based on disadvantaged children, can apply to all children. The present study limits its scope to only the visual arts, and its subjects, which were randomly selected, can represent their age group better than any children who have been brought up under special circumstances.

CHAPTER III

METHOD

Subjects

In order to test the hypotheses posed for the study, four groups of children were selected from four elementary schools in Oklahoma. A total of 114 students who are fifth grade boys and girls were involved. Two groups consisted of 37 children from A (N=17) and B (N=20) elementary schools in Stillwater. Both groups, randomly selected from fifth grade classes, had no art teachers at all prior grade levels. The other groups consisted of 77 children from C (N=50) and D (N=27) elementary schools in Ponca City. These groups, also randomly selected from fifth grade classes, had art teachers at all prior grade levels. The number of subjects in each group was determined by the number of returned letters signifying parental permission (Appendix A) to engage in the present study. Stillwater, which has a population of about 36,700, is a university community established around Oklahoma State University. Ponca City is an industrial city which has a population of about 28,200. These two cities are slow-growing, middle class communities.

Instrumentation

The Torrance Tests of Creative Thinking (Figural Form B) were used in this study. This portion of the Torrance test was designed to measure four aspects of creative thinking referred to as Fluency, Flexibility, Originality, and Elaboration. The test consists of three activities:

Activity 1 (PICTURE CONSTRUCTION)

This activity requires the subjects to finish a most unusual and creative picture with a colored sticker and pencil drawings.

Activity 2 (PICTURE COMPLETION)

This activity requires the subjects to sketch some interesting objects or pictures by adding lines to the incomplete figures.

Activity 3 (CIRCLES)

This activity requires the subjects to add lines to the circles to make unusual pictures.

Fluency is determined by the number of relevant responses given; Flexibility, by the number of different categories of response; Originality, by a measure of the relative frequency of occurrence of the individual's ideas; and Elaboration, by a measure of the additional details used in each response.

Procedure

The test (TTCT) was administered to all 114 students in the four groups. The four groups were divided into two

larger groups: Group I and Group II. Group I consisted of the 37 students from the two schools in Stillwater, who had no art teachers, and Group II, the 77 students from the two schools in Ponca City, who had art teachers. The procedures taken in administering the test to each group were as follows (also see Appendix B).

1. Before distributing the test booklets, the test administrator gave a brief orientation as follows to make sense, be honest, arouse interest and motivate performance. This orientation was also given in order to create a non-test atmosphere such as found in a game where serious thinking or problem-solving is involved. The test administrator said:

I believe you will have a lot of fun doing the activities we have planned for this period. We are going to do some things that will give you a chance to see how good you are at thinking up new ideas and solving problems. They will call for all of the imagination and thinking ability you have. So I hope that you will put on your best thinking cap and that you will enjoy yourself.

2. The test administrator then distributed the booklets and pencils and read general instructions.

3. The instruction requested students to turn to page 2 for Activity 1: PICTURE CONSTRUCTION.

4. Students were allowed ten minutes before time was called, and they were requested to turn to page 4, Activity 2: PICTURE COMPLETION.

5. After ten minutes had elapsed, the test administrator requested students to turn to page 6 for Activity 3: CIRCLES.

6. Following a ten-minute period, time was again called and the test booklets were collected.

When the testing process was completed, the scores were calculated and the responses charted (Appendix C).

CHAPTER IV

RESULTS

The mean test scores of Group I and II were compared on the three activities and the four aspects of the test, and the mean scores within each group were compared. That is, the scores of School A on each activity and on each aspect were compared with those of B, and the scores of C on each activity and on each aspect were compared with those of D. Then the scores of Group I, School A and B, on each activity and on each aspect were compared with those of Group II, School C and D.

Table I presents comparisons between School A and B in Stillwater on the four aspects of creativity: Originality, Elaboration, Fluency, and Flexibility. Using a T test, no significant differences were observed in the comparison of the results for these two schools relating to Originality, Elaboration, Fluency, and Flexibility. Since both schools have no art teachers and their students show no significant difference in creativity, the results were anticipated in H_1 Hypothesis 1.

Table II shows comparisons between School C and D in Ponca City on the four aspects of creativity. Between the two schools, there were no significant differences on

Originality, Elaboration, and Fluency, but there was a difference for Flexibility. Except for Flexibility, this result was anticipated in H_1 Hypothesis 2. Both schools have art teachers, and their students show no significant difference in creativity on three of the four aspects of the TTCT. Although both Ponca City school groups showed a significant difference in Flexibility, they showed no significant difference in total scores on the TTCT.

Table III presents comparisons between Stillwater schools (Group I) and Ponca City schools (Group II) on the four aspects of creativity. On Originality and Elaboration, significant differences were noted between Group I and Group II. No significant differences were shown between the two Groups on Fluency and Flexibility. However, as anticipated in Hypothesis 3, the total scores of TTCT between Group I and Group II showed significant differences.

Table IV shows comparisons between School A and B in Stillwater on the three activities in the TTCT. As anticipated in H_1 Hypothesis 1, no significant differences were found between these two schools on Activity 1, 2, and 3. Accordingly, there were no significant differences between schools in Group I in their total scores.

Table V presents comparisons between School C and D in Ponca City on the three activities. Again as anticipated in H_1 Hypothesis 2, no significant differences were observed between the two schools on Activity 1, 2, and 3. Of course, there were no significant differences between the two in

total scores.

Table VI shows comparisons between Stillwater schools (Group I) and Ponca City schools (Group II) on the three activities. Significant differences were noted between Group I and II on Activity 1 and 2, whereas no significant differences were observed between the two on Activity 3. However, as anticipated in H₁ Hypothesis 3, the two cities showed significant differences in total scores.

CHAPTER V

SUMMARY

The purpose of this study was to determine if the creativity of fifth-grade students would improve as a result of having had art teachers at all prior grade levels. Torrance Tests of Creative Thinking was used, and an Analysis of Variance was employed to analyze the data. It was found that no significant difference in score existed between the two schools in Stillwater and also between the other two schools in Ponca City. On the other hand, a statistically significant difference did exist between Group I, the two Stillwater schools that have no art teacher, and Group II, the two schools in Ponca City that have art teachers. Group II scored significantly better than Group I did.

Conclusions

Fifth-grade students who had art teacher at all prior grade levels are more likely to possess greater creativity than students who have had none: Group II showed significantly higher scores than Group I in Activity 1 and 2 of the three activities and in Originality and Elaboration of the four aspects of creativity. Even when no significant

difference was found between the two groups, as in Fluency and Flexibility, as well as in Activity 3. Group II always scored better than Group I. Moreover, there did exist a significant difference between the two groups in overall scores. The results of this study appear to confirm the value of art teachers and regular art instruction in enhancing students' creativity at the elementary level.

Recommendations

The role of art instructors at the elementary level is invaluable because it contributes to improving students' creativity--which is indeed one of the major goals of Art Education. The results of this study encourage elementary schools to employ qualified art teachers, whose intensive and systematic art instruction will help students become more creative thinkers.

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APPENDIXES

APPENDIX A

PARENTAL PERMISSION FORM

Dear Parent.

I am currently conducting research in the Stillwater Public Schools regarding student creativity. In order to determine the level of this ability in elementary students I am requesting your permission to administer the Torrance Test of Creative Thinking to your child. The students will not write their names on the test; therefore, their anonymity, as well as that of the schools, will be assured.

I would appreciate your child's participation in my study. Please sign below and have your child return this form to his/her teacher if you approve.

Thank you for your consideration in this matter.

Sincerely,

Mrs. Inja Shin,
O.S.U. Graduate Student

Yes, my child _____ may participate
(child's name)
in the creative study.

Parent Signature

Date

APPENDIX B

SPECIFIC INSTRUCTIONS FOR ADMINISTERING
TEST ACTIVITIES

After the identifying information has been provided, read these instructions:

In this booklet there are three interesting things for you to do. All of them will give you a chance to use your imagination to think of ideas and to put them together in various ways. In each activity, we want you to think of the most interesting and unusual ideas you can--ideas that no one else in this group will think of. After you think of an idea keep adding to it and build it up so that it will tell the most interesting and exciting story possible.

You will be given a time limit on each activity, so make good use of your time. Work fast but don't rush. Try to keep thinking of ideas, but if you run out of ideas before time is called, sit quietly and wait until you are told to turn to the next page.

If you have any questions after we start, don't speak out loud. Raise your hand and I shall come to your desk and try to answer your questions.

If there are no questions at this point, proceed with the first activity. If there are questions concerning the instructions, attempt to satisfy them by repeating the instructions in words that the person will understand or by elaborating upon the instructions in the printed booklet. Avoid giving examples or illustrations of "model responses." This tends to reduce originality and in some cases it even reduces the number of responses produced. Above all, attempt to maintain a friendly, comfortable, warm relationship with the group.

Ask the class to turn to page 2, Activity 1: PICTURE CONSTRUCTION. Ask those who can to read the instructions with you, continuing as follows:

On the opposite page is a curved shape. Think of a picture or an object which you can draw with this shape as a part.

Try to think of a picture that no one else will think of. Keep adding new ideas to make it tell as interesting and exciting a story as you can.

When you have completed your picture, think up a name or title for it and write it at the bottom of the page in the space provided. Make your title as clever and unusual as possible. Use it to help you tell your story.

Go ahead with your picture, making it different from anyone else's and making it tell as complete and as interesting a story as possible. You will have ten minutes.

Most examinees will be anxious to begin, so answer questions as expeditiously as possible and permit them to begin working. At the end of about nine minutes, pupils who have not yet entered a title for their drawing on the line at the bottom of page 3 may be reminded that they are to do

so and encouraged to accomplish it.

Using a stop watch, allow ten minutes before calling time. Ask the group to turn to page 4, Activity 2: PICTURE COMPLETION. Again, ask the group to read the instructions as you read them aloud:

By adding lines to the incomplete figures on this and the next page, you can sketch some interesting objects or pictures. Again, try to think of some picture or object that no one else will think of. Try to make it tell as complete and as interesting a story as you can by adding to and building up your first idea. Make up an interesting title for each of your drawings and write it at the bottom of each block next to the number of the figure.

All right, go ahead! You will have ten minutes.

Using a stop watch, allow ten minutes before calling time. Ask the pupils to turn to page 6, Activity 3: CIRCLES. Again, have the group read the instructions as you read them aloud:

In ten minutes see how many objects or pictures you can make from the circles below and on the next page. The circles should be the main part of whatever you make. With pencil or crayon add lines to the circles to complete your picture. You can place marks inside the circles, outside the circles, or both inside and outside the circles--wherever you want to in order to make your picture. Try to think of things that no one else will think of. Make as many different pictures or objects as you can and put as many ideas as you can in each one. Make them tell as complete and as interesting a story as you can. Add names or titles below the objects.

All right, go ahead. You have ten minutes.

After ten minutes, call time and collect the booklets. If the children were unable to write their own titles or labels, be prepared to interview each child briefly to obtain titles or labels. Otherwise, reliable scoring of the pictures will not be possible. It is usually desirable to have one or more assistants available to help with this when testing children in the kindergarten and primary grades.

APPENDIX C

TABLES (STUDENT RESPONSES)

TABLE I
COMPARISON BETWEEN STILLWATER SCHOOLS
(ASPECTS OF CREATIVITY)

VARIABLE: ORIGINALITY						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	27.23	9.22	0.08	35.0	0.93
B	20	27.00	8.59			
VARIABLE: ELABORATION						
SCHOOL	N	MEAM	SD	T	DF	PROB>T
A	17	64.47	16.12	0.30	35.0	0.76
B	20	62.55	21.57			
VARIABLE: FLUENCY						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	18.23	3.96	-1.18	30.5	0.24
B	20	20.45	7.14			
VARIABLE: FLEXIBILITY						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	15.35	3.58	-1.12	35.0	0.26
B	20	17.05	5.26			

TABLE II
 COMPARISON BETWEEN PONCA CITY SCHOOLS
 (ASPECTS OF CREATIVITY)

VARIABLE: ORIGINALITY						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
C	50	34.44	10.38	-0.04	75.0	0.96
D	27	34.55	13.86			
VARIABLE: ELABORATION						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
C	50	78.96	25.49	0.86	75.0	0.38
D	27	73.88	22.50			
VARIABLE: FLUENCY						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
C	50	20.92	6.47	1.22	75.0	0.22
D	27	19.07	5.93			
VARIABLE: FLEXIBILITY						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
C	50	17.94	5.14	2.89	75.0	0.002
D	27	14.66	3.82			

TABLE III
 COMPARISON BETWEEN TWO CITIES
 (ASPECTS OF CREATIVITY)

VARIABLE: ORIGINALITY						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	34.48	11.62	3.41	112.0	0.00009
STILLWATER	37	27.10	8.7			
VARIABLE: ELABORATION						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	77.28	24.46	3.00	112.0	0.003
STILLWATER	37	63.43	19.02			
VARIABLE: FLUENCY						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	20.27	6.31	0.67	112.0	0.49
STILLWATER	37	19.43	5.92			
VARIABLE: FLEXIBILITY						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	16.79	4.95	0.53	112.0	0.59
STILLWATER	37	16.27	4.59			

TABLE IV
COMPARISON BETWEEN STILLWATER SCHOOLS
(ACTIVITIES)

VARIABLE: ACTIVITY 1						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	13.05	5.21	-0.29	35.0	0.77
B	20	13.75	8.40			

VARIABLE: ACTIVITY 2						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	54.82	10.86	0.66	35.0	0.50
B	20	52.35	11.49			

VARIABLE: ACTIVITY 3						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	57.41	15.74	-0.52	35.0	0.60
B	20	60.95	23.88			

VARIABLE: TOTAL						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	17	125.29	21.59	-0.20	35.0	0.84
B	20	127.05	29.79			

TABLE V
COMPARISON BETWEEN PONCA CITY SCHOOLS
(ACTIVITIES)

VARIABLE: ACTIVITY 1						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	50	21.52	8.54	1.78	52.3	0.08
B	27	17.85	8.75			

VARIABLE: ACTIVITY 2						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	50	61.86	17.07	0.47	75.0	0.63
B	27	60.03	13.51			

VARIABLE: ACTIVITY 3						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	50	68.88	26.55	0.72	75.0	0.47
B	27	64.29	26.61			

VARIABLE: TOTAL						
SCHOOL	N	MEAN	SD	T	DF	PROB>T
A	50	152.26	37.82	1.11	75.0	0.26
B	27	142.18	37.49			

TABLE VI
COMPARISON BETWEEN TWO CITIES
(ACTIVITIES)

VARIABLE: ACTIVITY 1						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	20.23	8.74	4.13	112.0	0.0001
STILLWATER	37	13.43	7.03			
VARIABLE: ACTIVITY 2						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	61.22	15.84	3.00	96.8	0.003
STILLWATER	37	53.48	11.12			
VARIABLE: ACTIVITY 3						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	67.27	26.49	1.60	112.0	0.11
STILLWATER	37	59.32	20.35			
VARIABLE: TOTAL						
CITY	N	MEAN	SD	T	DF	PROB>T
PONCA CITY	77	148.72	37.77	3.70	98.2	0.0003
STILLWATER	37	126.24	26.00			

VITA ²

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MASTER OF SCIENCE

Thesis: A COMPARATIVE STUDY OF THE VALUE OF REGULAR ART
TEACHERS IN IMPROVING THE CREATIVITY OF FIFTH
GRADERS

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