

AN EMPIRICAL STUDY OF SELECTED ART THERAPY THEORIES  
AND METHODS APPLIED TO A FOUNDATION RESOURCE  
CENTER FOR THE KINESTHETIC LEARNER  
IN THE ELEMENTARY CLASSROOM

---

A THESIS  
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF ARTS  
IN THE GRADUATE SCHOOL OF THE  
TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF HUMANITIES AND  
FINE ARTS

BY  
NORMA LUCILE BROWN MILLER, B.S.

---

DENTON, TEXAS  
AUGUST, 1982

## DEDICATION

This study is dedicated to three groups of people: first to all those students who have the capacity to learn, but who because of an inherit uniqueness in their learning channels are experiencing difficulties in their studies; second to the teachers who will find the key to unlock the student's learning channels; and third, I dedicate this study to the students at Career Planning Academy, Fort Worth Independent School District who taught me much.



## TABLE OF CONTENTS

I.	INTRODUCTION . . . . .	1
	Statement of the Problem . . . . .	1
	Purpose . . . . .	1
	Rationale . . . . .	1
	Background . . . . .	2
	List of Definitions of Terms . . . . .	8
II.	REVIEW OF RELEVANT LITERATURE . . . . .	12
III.	DELIMITATIONS . . . . .	19
IV.	METHODOLOGY . . . . .	21
V.	QUESTIONNAIRE FINDINGS . . . . .	24
VI.	SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . . .	29
VII.	PLAN FOR THE TEACHER USE OF THE TEACHING- LEARNING ART THERAPY RESOURCE CENTER . . . . .	36
	Plan for Teacher Use of the Teaching- Learning Center . . . . .	37
	Preface . . . . .	38
	Writer's Response to Subjects' Responses . . . . .	39
	Pollutants in the Classroom . . . . .	41
	Inventory of Art Trunk . . . . .	44
	Guidelines for Art Activities . . . . .	47
	Summary for the Teacher . . . . .	51
APPENDIXES . . . . .		53
A.	COPY OF LETTER OF PERMISSION TO DO STUDY . . . . .	54
B.	SAMPLE LETTER TO SUBJECTS . . . . .	55
C.	CONSENT FORM . . . . .	56
D.	SAMPLE QUESTIONNAIRE . . . . .	57
E.	QUESTION 1 RESPONSES . . . . .	59

## APPENDIXES - Continued

F.	QUESTION 2 CUMULATIVE DATA . . . . .	60
G.	QUESTION 2 RESPONSES . . . . .	61
H.	QUESTION 3 CUMULATIVE DATA . . . . .	68
I.	QUESTION 3 RESPONSES . . . . .	69
J.	QUESTION 4 CUMULATIVE DATA . . . . .	80
K.	QUESTION 4 RESPONSES . . . . .	81
L.	QUESTION 5 CUMULATIVE DATA . . . . .	89
M.	QUESTION 5 RESPONSES . . . . .	90
N.	QUESTION 6 CUMULATIVE DATA . . . . .	98
O.	QUESTION 6 DATA BY PRIORITY . . . . .	99
P.	QUESTION 6 RESPONSES . . . . .	100
Q.	QUESTION 7 CUMULATIVE DATA . . . . .	112
R.	QUESTION 7 RESPONSES . . . . .	113
S.	PICTURE OF THE TRUNK . . . . .	128
T.	DATA FROM MODALITY TESTING AT CAREER PLANNING ACADEMY . . . . .	129
	BIBLIOGRAPHY . . . . .	131

## CHAPTER I

### INTRODUCTION

#### Statement of the Problem

The writer proposed an empirical study, utilizing selected art therapy methods, and developed a portable teaching-learning art resource center for elementary classroom usage in a kinesthetic learning modality environment.

#### Purpose

The purpose of the study was to identify and utilize specific art therapy theories and methods for development of a foundation or theoretical base from which a portable teaching-learning art center emerged.

#### Rationale

There was need for identification of selected art therapy theories and methods for use in the development of a portable teaching-learning art therapy resource center for the elementary classroom teacher. Teachers needed to utilize selected methods to work with kinesthetic learners.

Teaching methods such as phonics aid the auditory learner, and sight reading is of benefit to the visual learner; however, there are few reading aids to help the kinesthetic learner in reading.

In summary, the real need was for a theoretical base which would underscore those art activities which would be available for elementary classroom teachers who wished to have a functional resource (the trunk) ready for usage in the classroom.

### Background

The writer first encountered the kinesthetic learner while doing student teaching at Mary Louise Phillips Elementary School in the fall of 1977. These children had a very short attention span. They were always busy wearing out something. They took their ball-point pens apart, and they chewed on their pencils. They sorted out their notebook papers; then they dropped their books. They fell out of their chairs. They chewed gum. One girl always went through her purse, taking everything out of it. A boy pulled his arms up into his shirt and kept them inside the shirt part of every class period.

If the writer took away everything in reach and spent much time insisting that each student pay attention to reading, she probably would have at least one student who became very sleepy.

These four children, ages eight to eleven years, were reading at the second-grade level, but the writer believed these children were intelligent enough to learn. The

writer did some reading instruction, prepared activities to break up the routine, tried to improve the children's self-concept and planned art activities to make class time more interesting.

The writer refused to listen to the "I can'ts," "You're stupid," "Shut up," and "I want to be first." The writer repeatedly told the children that they could learn. She praised successes, making sure the children had some success each day. She insisted on good manners. No one was allowed to call anyone else dumb.

During the five weeks when she taught these children, the writer was not able to see much progress. However, her cooperating teacher later sent reports that the children were doing better. The cooperating teacher felt that the improvement in the children's behavior was due to the individual time which the writer had spent with them.

In the spring, the writer heard Walter B. Barbe speak on the learning modalities. Barbe named three modalities of learning: visual, auditory, and kinesthetic. The kinesthetic learner needs to use his big muscles. He uses his sense of feel to learn. Barbe said, "Teachers usually teach in the same manner in which they learn. Some teachers do not understand the kinesthetic learning modality.

The kinesthetic learner is one of the most neglected learning disabilities."<sup>1</sup>

While these children usually did well in art and physical education classes, the kinesthetic child was usually grouped in the bottom reading group. Barbe suggested grouping the children by their dominant learning modality and teaching to the strengths of the individual child's learning modality.

Four years transpired between the time the researcher wrote the preceding background and the time she finished this thesis. These years gave new experiences, insights, and the desire for more knowledge and understanding.

The writer taught for two years at Career Planning Academy, an alternate junior-senior high school in the Fort Worth Independent School District. The school enrolled about one hundred students who had normal or above normal intelligence, but who were not achieving at their expected grade level. The school employed a principal/coordinator, a social worker, a career guidance counselor, and eight teachers. As full-time art teacher at Career Planning Academy, the writer used an art therapy approach to help the students enhance their self-worth and to communicate some of their frustrations in an acceptable manner. Art as experience was

---

<sup>1</sup>Walter B. Barbe, lecture at Texas Wesleyan College, Fort Worth, Texas, 22 April 1978.

considered more important than the end art product.<sup>1</sup>

The students and faculty of Career Planning Academy were tested with the Swassing-Barbe Modality Index to learn each person's main learning modality. Data showed 27.6 percent of the students to be kinesthetic learners.<sup>2</sup> Equal Kinesthetic-Visual modality was for 21.9 percent of the students, and 26.7 percent were visual learners, while only 5.0 percent of the students at Career Planning Academy were auditory learners. Many teachers who do not understand the concept of modality (learning strengths) and modality instruction use only auditory methods of teaching.<sup>3</sup> It was easy to understand that most of the students at Career Planning Academy could not learn if they were taught only by auditory methods. Fortunately, half of the teachers at Career Planning Academy were kinesthetic learners.

These junior and senior high school students had been shuffled through the school system, often failing in the classroom, and finally had chosen to enroll in an alternate school. Some of the students were non-readers. Had these students been offered an excellent art therapy program in

---

<sup>1</sup>John Dewey, Art as Experience (New York: Minton, Balch & Co., 1934), pp. 35-81.

<sup>2</sup>See Appendix T.

<sup>3</sup>Study Guide and Script, The Swassing-Barbe Modality Index (Columbus, Ohio: Zaner-Bloser, 1979), p. 2.

kindergarten,<sup>1</sup> perhaps their cognitive skills could have developed so that the students could have achieved at the expected grade level.

The frustration of non-learning takes a heavy toll on children. The cost of alternate schools is tremendous. A quality art program for kindergarten through grade three would eliminate the need for some special education and alternate schools.<sup>2</sup>

Because of a health problem (diabetes mellitus), the writer had an interesting learning experience. She became acquainted with some physicians who were Clinical Ecologists.<sup>3</sup> During the prior four years the writer spent a total of four months at the Philpott Medical Center in Oklahoma City. Here she saw students who had learning disabilities being diagnosed in a manner like those who had diabetes.<sup>4</sup>

---

<sup>1</sup>Shaun McNiff and Karen McNiff, "Art Therapy in the Classroom," Art Teacher 6 (Spring 1976): 10-12.

<sup>2</sup>Roger M. Williams, "Why Children Should Draw, the Surprising Link between Art and Learning," Saturday Review, September 3, 1977, pp. 11-16.

<sup>3</sup>Stevan Cordas, D.O., Bedford, Texas; Charles R. Hamel, M.D., Fort Worth, Texas; William H. Philpott, M.D., Oklahoma City, Oklahoma; and William J. Rea, M.D., Dallas, Texas.

<sup>4</sup>William H. Philpott and Dwight K. Kalita, Brain Allergies The Psycho-Nutrient Connection (New Canaan, Connecticut, 1980), p. 146.



Blood sugar problems caused children to display an array of bizarre symptoms. A girl could write her name and the alphabet correctly until she ate papaya. Her blood sugar rose to 200. She then wrote poorly, leaving out letters, turning letters backward and finally wrote her name as if it was reflected in a mirror. The complete name was written upside down and backward.<sup>1</sup>

At Philpott Medical Center, the researcher learned that items other than food could hamper learning ability. Aerosol sprays,<sup>2</sup> mimeograph ink,<sup>3</sup> rubber cement,<sup>4</sup> perfume,<sup>5</sup> janitorial products,<sup>6</sup> fluorescent lighting,<sup>7</sup> and natural gas<sup>8</sup> escaping from appliances can dull learning ability.

---

<sup>1</sup>Jack Challem, "Learning Disabilities, One Family's Struggle," Let's Live, December 1980, pp. 25-29.

<sup>2</sup>Natalie Golos and Frances Golos Golbitz, Coping With Your Allergies (New York: Simon and Schuster, 1979), p. 158.

<sup>3</sup>Lendon H. Smith, Improving Your Child's Behavior Chemistry (New York: Pocket Books, 1977), p. 171.

<sup>4</sup>Theron G. Randolph, Human Ecology and Susceptibility To The Chemical Environment (Springfield, Illinois: Charles C. Thomas, 1978), pp. 49-51.

<sup>5</sup>John Diamond, BK Behavioral Kinesiology (New York: Harper & Row, Publishers, 1979), p. 78.

<sup>6</sup>William G. Crook, Can Your Child Read? Is He Hyperactive? (Jackson, Tennessee: Professional Books, Revised edition, 1977), p. 189.

<sup>7</sup>Richard S. Kavner and Lorraine Dusky, Total Vision (New York: A & W Publishers, Inc., 1978), pp. 172-173.

<sup>8</sup>Doris J. Rapp, Allergies and the Hyperactive Child (New York: Cornerstone Library, 1980), p. 185.

### List of Definitions of Terms

Art therapy--provides the opportunity for non-verbal expression and communication. Within the field there are two major approaches. The use of art as therapy implies that the creative process can be a means both of reconciling emotional conflicts and of fostering self-awareness and personal growth.<sup>1</sup>

Auditory learner--. . . a child who shows discrepancy between his visual and auditory learning channels, with the auditory channel superior. . . . The emphasis for this child is on hearing and speaking. His best sources are your voice, his own voice, and tapes and records. He needs to learn to change visual material to auditory-verbal material whenever possible.<sup>2</sup>

Chemically sensitive artist<sup>3</sup>--Philpott said, "The individuals ability to handle toxins, pollens, foods and chemicals contracted from the environment differs considerably according to his unique chemical makeup. The more defective his ability, by inheritance, enzyme defici-

---

<sup>1</sup>American Art Therapy Association, Art Therapy (Pittsburgh, Pa.: American Art Therapy Association, n.d.), n.p. (a pamphlet).

<sup>2</sup>Marnell L. Hayes, Oh Dear, Somebody Said "Learning Disabilities"! (San Rafael, California: Academic Therapy Publications, 1975), p. 35.

<sup>3</sup>Dona Shrier, residential designer, Dallas, Texas.

cy, malnutrition, harbored infection or otherwise, the more likely a person is to develop maladaptive symptoms on exposure to food and environmental contacts."<sup>1</sup>

Because of pronounced chemical sensitivity, the artist, an architect, must work at home; she also had to modify her home environment by removing all carpets, all plastics, and synthetic fibers; changing the heat system from gas to electric, adding special air and water filters. She wears only cotton clothing. Her linens, mattress, pillows, and upholstery padding are cotton. In her work she uses watercolor and colored pencils when possible.

Clinical Ecology--is concerned with adverse reactions to environmental insults modified by individual susceptibility in terms of specific adaptation.<sup>2</sup>

Empirical study--a study derived from or guided by experience or experiment.<sup>3</sup>

---

<sup>1</sup>Philpott and Kalita, Brain Allergies, pp. 15-16.

<sup>2</sup>Lawrence D. Dickey, M.D., ed., Clinical Ecology (Springfield, Illinois: Charles C. Thomas Publisher, 1976), p. ix.

<sup>3</sup>Jess Stein, ed., The Random House Dictionary of the English Language: The Unabridged Edition (New York: Random House, 1967), p. 468.

Foundation resource center for the kinesthetic learner--the basis or groundwork of a source of supply and aid from a principal point (the trunk) to enable the touch-and-do tactile modality child to acquire knowledge.<sup>1</sup>

Herberholz trunk model--a footlocker which has been turned on its end and fitted with shelves of suitable sizes to hold art materials, books, audiovisuals and other needed items. The trunk is made portable by putting casters on it.

Kinesthetic learner--"The haptic (or kinesthetic) child places himself at the center of the action and, working from a sensory base, reports what he feels about his subject."<sup>2</sup> Gaitskell and Hurwitz quote Lowenfeld:

"The self is projected as the true actor of the picture" (p. 261); "sizes and spaces are determined by their emotional value in size and importance" (p. 261); "the haptic type . . . uses the human figure as the interpreter of his emotions and feelings" (p. 263); "the perspective of haptic space is a perspective of values" (p. 268).<sup>3</sup>

---

<sup>1</sup>Ibid., pp. 239, 570, 815, 1221, and Hayes, Oh Dear, Someone Said "Learning Disabilities"!, p. 55.

<sup>2</sup>Charles D. Gaitskell and Al Hurwitz, Children and Their Art, 2nd ed. (New York: Harcourt, Brace & World, Inc., 1970), p. 38, n. 50.

<sup>3</sup>Ibid., p. 163, n. 22, quoting Viktor Lowenfeld and W. Lambert Brittain, Creative and Mental Growth, 4th ed. (New York: Macmillan Publishing Co., Inc., 1975).

Swassing-Barbe Modality Index (SBMI)--identifies modality strengths as visual, auditory, and kinesthetic.<sup>1</sup> "The SBMI is a valid and reliable instrument that determines modality strengths through a matching-to-sample task."<sup>2</sup>

Theoretical base--a particular conception or view of something to be done or the method of doing the fundamental principle or groundwork.<sup>3</sup>

Visual learner--"The visual child is a close observer of his environment and, working from a primarily perceptual basis, offers much information concerning what he sees."<sup>4</sup> Gaitskel and Hurwitz indicate a visual learner feels like a spectator; sees the general shape of an object, then details; usually begins work with outline of object, then adds details; "'how it looks' is the first reaction to any object met in darkness" (p. 261),<sup>5</sup> considers correct proportions and measurements of drawn or modeled human figure of prime importance; likewise, represents space according to laws of perspective (true according to camera).<sup>6</sup>

---

<sup>1</sup>Walter B. Barbe and Raymond H. Swassing, Teaching Through Modality Strengths: Concepts and Practices (Columbus, Ohio: Zaner-Bloser, Inc., 1979), pp. 31-46.

<sup>2</sup>Ibid., p. 46.

<sup>3</sup>Stein, The Random House Dictionary, pp. 123, 1471.

<sup>4</sup>Gaitskell and Hurwitz, Children and Their Art, p. 38, n. 50.

<sup>5</sup>Lowenfeld and Brittain, Creative and Mental Growth, quoted by Gaitskell and Hurwitz, Children and Their Art, p. 163, n. 22.

<sup>6</sup>Gaitskell and Hurwitz, Children and Their Art, p. 163, n. 22.

## CHAPTER II

### REVIEW OF RELEVANT LITERATURE

She was a frail child who cried easily. She had entered the kindergarten class in January. Most of the other children had been studying "readiness" skills since September. She could not keep up with the other children in the publisher's sleek workbook. Her coordination was not good; sometimes her eyes did not track together. She had not experienced any successes in kindergarten. She was learning that school was a fearsome place. She had difficulty doing independent work.

The art project of the day was clay work. The children were to make a honey pot for Pooh bear. As student teacher in the kindergarten class, the writer took groups of four children to the clay table. The teacher demonstrated the coil method of making pots and helped each child get started with his individual project. The child described above was in the third group of students to make a honey pot. She had observed the others rolling out coils of clay, stacking coil on top of coil to form a honey pot. The teacher was surprised to see this child, who had never excelled in the kindergarten, start on the clay project before

directions were given. She had observed the other children making the pots; she constructed one of the best clay pots in the kindergarten class.

The writer sought answers to this paradox of the frightened child who with confidence succeeded in building with clay. "To the child, art is one of the many ways he uses his developing muscles and senses to explore the world, to perfect skills, to find and practice new actions and ways to use himself and materials."<sup>1</sup>

Studies have shown that emphasis on art enhances academics. While some back-to-the-basics advocates are relegating the arts to a non-essential status, "Important new evidence shows not only that the arts are beneficial in themselves, but also that their introduction into the school's curriculum causes marked improvement in math, reading, science, and other subjects that the educationists pronounce "'essential'." <sup>2</sup>

At Mead School in Connecticut, nursery school through 6th grade, the arts are given a place of prime importance; as much as half of school time is spent in regular

---

<sup>1</sup>Helen F. Robinson, Exploring Teaching in Early Childhood Education (Boston: Allyn and Bacon, Inc., 1977), p. 138.

<sup>2</sup>Roger M. Williams, "Why Children Should Draw, The Surprising Link Between Art and Learning," p. 11.

art classes.<sup>1</sup> Sixth graders at Mead in 1976-77 scored "at or above the Standard Achievement Test (SAT) norms in every subject."<sup>2</sup>

Some school districts hire art therapists who work individually with pupils who are having problems.<sup>3</sup> One kindergarten boy who had academic and emotional problems was helped to overcome these problems by an art therapist who came to the boy's classroom once a week. Rather than isolating the child for therapy, he was treated in his classroom where he interacted with the therapist and with small groups of other children.<sup>4</sup>

Under a project funded by the National Institute of Education, significant gains in cognitive skills were found after the students experienced twelve weeks of experimental art therapy classes.<sup>5</sup> The hypothesis of the study was "that art can be the language of cognition paralleling spoken language."<sup>6</sup> "The children were given the Silver Test of

---

<sup>1</sup>Ibid.

<sup>2</sup>Ibid., p. 16.

<sup>3</sup>McNiff and McNiff, "Art Therapy in the Classroom," pp. 10-12.

<sup>4</sup>Ibid., p. 12.

<sup>5</sup>Rawley A. Silver and others, Assessing And Developing Cognitive Skills In Handicapped Children Through Art (New Rochelle, New York: ERIC Document Reproduction Service, ED 209 878, 1980), p. 53.

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



Cognitive and Creative Skills which uses drawing tasks to assess the child's understanding of the concept of a class or group of objects, the concept of space, and concepts of sequential order and conservation.....The Program stressed the development of concepts of class, space, and order as well as creativity and self esteem."<sup>1</sup> In a previous study, students improved in three areas of cognition after ten hours of art class time.<sup>2</sup>

Uhlin in a discussion of brain function states that 10 to 15 percent of total students have the problem of dyslexia "and 75 percent of delinquent adolescent groups are found to suffer from the malady."<sup>3</sup> Uhlin discussed the possibility of disordered brain hemispheric interaction as the cause of dyslexia. If this is the case, art could serve as an aid to the perceptual-motor needs of the dyslexic children.<sup>4</sup>

---

<sup>1</sup>Ibid., p. 1.

<sup>2</sup>Ibid., p. 13.

<sup>3</sup>Donald M. Uhlin, Art for Exceptional Children, Second Edition (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1979), p. 214.

<sup>4</sup>Ibid.

Cott<sup>1</sup> and Philpott<sup>2</sup> advance the hypothesis of disordered body chemistry as the cause of dyslexia. Treatment concerns are food allergies, toxic poisoning, vitamin and mineral deficiencies and disordered blood sugar. Philpott states that persons who complete his diagnosis and continue on his prescribed plan usually have the dyslexic symptoms disappear.<sup>3</sup>

Not all children have a knowledgeable physician available or do they have the means for such treatment. Let us consider another school situation where art has been an answer to needs. The IMPACT program, "at arts-centered Eastgate Elementary School in Columbus, Ohio, where one-third of the children are from families receiving welfare, the number of sixth graders reading at or above grade level increased sixfold during the school year 1973-74."<sup>4</sup>

---

<sup>1</sup>Allan Cott, "Symptoms and Treatment of Children with Learning Disorders," in Ecologic-Biochemical Approaches to Treatment of Delinquents and Criminals, ed. Leonard J. Hippchen (New York: Van Nostrand Reinhold Company, 1978), p. 207.

<sup>2</sup>William H. Philpott, "The Relationship Between Addictive Drive and Maladaptive Social Behavior", paper presented at National College of Juvenile Justice, Graduate College University of Nevada, Reno, Nevada, 15 June 1979.

<sup>3</sup>Personal conversation with William H. Philpott, M.D., January 1981.

<sup>4</sup>Roger M. Williams, "Why Children Should Draw", The Surprising Link Between Art and Learning, p. 15.

Relevant literature discusses environmental hazards in the classroom. Children began to reverse and mirror write letters. Search for the cause found that the students were inhaling pesticide which was being sprayed repeatedly on the pecan trees in the adjoining acreage.<sup>1</sup> Exposure to mimeograph ink, tobacco, perfume, and felt tip pens can render a child unable to concentrate.<sup>2</sup>

Artificial lighting can have drastic effects on students' learning abilities. High-pressure sodium-vapor lights caused bloodshot painful eyes, nausea and distorted colors before pressure from concerned parents lobbied for removal of the offending lights.<sup>3</sup> ...."schools could minimize the hazards of lighting by using broad-spectrum fluorescent lamps instead of the narrow-spectrum "cool white" fluorescent bulbs in common use."<sup>4</sup>

Research by John Ott and other scientists at the National Institute of Health "show that natural, full spectrum light is needed for optimal health levels (both

---

<sup>1</sup>Bruce Fellman, "Is Your Child Allergic to School?" Prevention, May 1982, p. 129.

<sup>2</sup>Ibid., pp. 129-130.

<sup>3</sup>Lowell Ponte, "How Artificial Light Affects Your Health", Reader's Digest, February 1981, p. 131.

<sup>4</sup>Ibid., p. 134.

physical and psychological.)"<sup>1</sup> Ott has stated that inadequate lighting can "adversely affect test scores (on standardized tests) by as much as 50 percent."<sup>2</sup>

---

<sup>1</sup>Carl F. Gruning, "The Better To See You With," The Health Quarterly (Plus Two), May/June 1982, p. 91.

<sup>2</sup>Ibid.

## CHAPTER III

### DELIMITATIONS

The writer did not intend to do an all-inclusive study of the problems of the kinesthetic learner. She used only the selected methods, models, and theories from those listed below.

1. The writer selected these theorists: Jean Piaget, Walter B. Barbe, John Dewey, Viktor Lowenfeld, W. Lambert Brittain, Barbara Herberholz, Geraldine H. Williams, Mary M. Wood, and the National Art Education Association's Essentials of a Quality School Art Program.
2. The writer developed a theoretical base for the resource center taken or extracted from:
  - a. Piaget's theory of Stages of Intellectual Development
  - b. Dewey's statement of Art as Experience
  - c. Williams and Wood's Developmental Art Therapy curriculum areas
3. The writer developed a resource center for the kinesthetic learner, using the Herberholz trunk model as a guide for the learning center.

4. The writer brought about the organization of the trunk, utilizing as many selected existing products as were needed to develop the resource center.
5. From this foundational base, the writer adopted specific art therapy procedures.
6. The writer constructed the resource center so that it was portable.
7. The writer detailed and provided in the trunk a plan for its use.
8. The writer, understanding the need for economy in the project, wrote for catalogues, used donations and discards, and sought to obtain the best buy for items.

## CHAPTER IV

### METHODOLOGY

The writer considered the needs of the kinesthetic learner and prepared a questionnaire (Appendix D). The questionnaire was mailed to teachers, school administrators, researchers, special education teachers, editors, counselors, and a chemically sensitive artist. A cover letter (Appendix B) and a consent form (Appendix C) were mailed with the questionnaire. Twenty-five persons completed and returned the questionnaire.

Subjective information was sent in by Barbara Herberholz, designer of the Herberholz trunk model. Mrs. Herberholz informed the writer that the trunk was a standard size foot locker. Shelves were spaced to fit books and small boxes. The foot locker was lined with 1/4 inch or 3/8 inch plywood. The plywood unit was made first, then it was put in place with aluminum pop rivets. Wood strips were attached at the bottom of the shelves and a heavy elastic band was placed above the strips to hold the books. Swivel wheels were fastened to a 1/2 inch piece of plywood first, then to the bottom of the foot locker. Good big wheels, steel with rubber coating, were purchased. The wheel board

was bolted through the bottom of the foot locker before the shelf unit was inserted.<sup>1</sup>

The writer analyzed questionnaire data from twenty-five subjects to obtain qualitative data from the quantitative data. Each specific variable from all responses was sorted, recorded in the appropriate column, and counted by the researcher (Appendixes E-R).

The recording was done in the following manner. Each subject was given a number. Subject numbers were listed vertically on the left side of the computation sheet. The identifiable variables were named in a horizontal line across the top of the sheet. When the recording was completed, a frequency count was made. The data were then typed, starting at the left of the computation sheet, and the first three columns were typed through to the completion of the twenty-five subjects. Counting from the left, the next three columns were typed. This procedure continued until all the data had been typed.

After studying the theories of Piaget's Stages of Intellectual Development, Dewey's statement of Art as Experience, Williams and Wood's Developmental Art Therapy curriculum areas, and considering the specific learning difficulties of the kinesthetic child, the writer selected action

---

<sup>1</sup>Barbara Herberholz, letter and personal phone conversation, June, 1982.



activities in which the child may use his sense of feeling ". . . to strengthen messages to the child's brain through the stimulation provided by textured surfaces."<sup>1</sup>

Using the Herberholz trunk model, the writer made modifications to the trunk so the curriculum was suitable for the kinesthetic learner. The writer selected from existing art supplies, environmental items, books, manipulative objects, and audiovisual materials. The writer chose and developed art therapy methods suitable for the kinesthetic learner. For a list of items in the trunk, see Plan for Teacher Use of the Teaching-Learning Center.

The writer put swivel wheels on the trunk and placed shelves suitable for the supplies inside the trunk. The trunk contained guidance materials for the teacher. Such items as resource publications and lesson plans were included.

Understanding the need for economy in the project, the writer used some discards and sought to obtain the best buy for items.

---

<sup>1</sup>Hayes, Oh Dear, Somebody Said "Learning Disabilities"!, p. 55.

## CHAPTER V

### QUESTIONNAIRE FINDINGS

The questionnaire dealt with the problems of the kinesthetic learner in the classroom and sought information used in the development of a teaching-learning art resource center designed to enhance kinesthetic learning in the elementary classroom. Twenty-five questionnaires were analyzed.

Question 1. Have you ever had a student whom you could identify as a kinesthetic child?

Yes \_\_\_\_ No \_\_\_\_ Undecided \_\_\_\_

To this question 84 percent answered yes, 4.0 percent answered no, 8.0 percent were undecided, and one respondent did not answer.

Question 2. What identifiable variables did you use to determine the child was a kinesthetic learner?

Specific variables and frequency of listing:

Motor	9	Testing	7
Tactile Approaches	5	Poor Writing	2
Observation	7	Manipulative Materials	7
Neurological Assessment	1	Miscellaneous	2

Question 3. What would you say the key characteristics of a kinesthetic child are?

Key characteristics are:

Movement	6	Athletic	3
Muscle	8	Non-Reader	1
Restless	5	Math	1
Uptight	4	Hyperactive	5
Touch	10	Attention Span	3
Energy	2	Miscellaneous	4
Doer	3		

Question 4. Have you observed a kinesthetic learner encountering specific difficulties in the classroom? Yes \_\_\_\_ No \_\_\_\_

List type of difficulties.

Of the respondents, 92 percent had observed a kinesthetic learner having difficulties in the classroom, 8.0 percent had not made such an observation.

List of difficulties:

Discipline Problem	5	Motor Task	7
Can't Sit Still	6	Doing	1
Auditory	10	Poor Self-Image	2
Visual	7	Listening	2
Reading	6	Miscellaneous	4
Math	4		

Question 5. What teaching methods would you suggest be used with the kinesthetic learner?

Teaching methods:

Movement	6	Specific Theorists	7
Tactile	8	Allergy Testing	1
Motor	2	Curriculum	4
Creativity	3	Manipulative	6
Reading	2	Miscellaneous	3
Therapy	3		

Question 6. Describe (in order of priority) the key resource materials you would place in a portable teaching-learning art resource center for the kinesthetic child.

Frequency of key resource materials:

Movement	2	Printing	2
Activities	7	Scissors	8
Classroom	1	Stencils	3
Tactile	10	Templates	3
Clay	11	Tracing Materials	2
Paper	10	Improvised Art Materials	5
Natural Materials	4	Woodworking	3
Markers	5	Miscellaneous	14
Painting Materials	11		
Sandpaper	3		

These items received first priority for use in the art resource center: movement games, physical-type activities, adequate space, paper and fabrics of different textures, variety of materials, clay of various kinds, scented markers, sandpaper to draw on, glitter-glue-paper, paint brushes, tracing materials--pictures, designs, stencils, plastic, paper, playdough, sandpaper, art materials free from petro-chemical and artificial dyes, large magic markers, clay, fingerpaints, paper of various colors and textures (including sandpaper), simple materials requiring no special instruction for use, geometric shapes, fingerpaint, crayons, and pencils.

Question 7. Describe the most significant methods, theories, or concepts you believe should be recommended for the teacher who will use a portable teaching-learning art resource center for the kinesthetic child in conjunction with the elementary classroom learner.

The most significant methods, theories, or concepts are:

Expressive Arts	3	Art Therapy	1
Modalities	9	Touch	3
Movement	4	Clinical Ecology	1
Reinforcement	3	Group Work	1

Motor	4	Teacher Training	1
Video Taping	1	Music	1
Body Image	1	Exploration	1
One-to-One	2	Create and Explain	1
Named Theorists	13		

## CHAPTER VI

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### SUMMARY

This study of the kinesthetic learner has identified and utilized specific art therapy theories and methods for developing a foundation and theoretical base from which a portable teaching-learning center emerged. The study has identified variables used to determine that a child was a kinesthetic learner (Appendix G) and has listed the key characteristics of a kinesthetic child (Appendix I).

A questionnaire concerning the kinesthetic learners' characteristics, problems, and the best solutions for successful teaching of this modality, was returned by twenty-five subjects (Appendix D). Ninety-six percent of the subjects had observed the kinesthetic learner encountering specific difficulties in the classroom. Appendix K lists major difficulties of the kinesthetic child such as problems with motor tasks, visual imperceptions, reading and math deficiencies, and the greatest number of responses for problem areas was given to auditory channel learning. Also listed was the kinesthetic learner's inability to sit still.

Touching and movement were the teaching methods

mentioned most frequently for use with the kinesthetic student. The number one key resource material listed for the trunk was clay. Painting materials of all kinds, paper of different colors and textures, and tactile methods were next in frequency listing. All key resource materials listed by the subjects are shown in Appendix P; the materials are listed by priority in Appendix O.

Many excellent methods, theories and concepts were recommended by the subjects for the teacher who would use a portable teaching-learning art resource center for the kinesthetic child in conjunction with the elementary classroom learner. The use of modalities to teach was mentioned by thirty-six percent of the subjects. The kinesthetic modality was to dominate, with auditory and visual modalities added only after the kinesthetic introduction. For the kinesthetic child, to touch was to learn.

### CONCLUSIONS

The data from this study shows that the kinesthetic learner is encountering serious difficulties in the classroom. Specific methods of instruction are recommended. These methods are listed in Appendix M and are outlined in the Plan For Teacher Use.

The researcher's field of reference has enlarged considerably since the start of the study. She started



with an interest in these children who were in perpetual motion, who had difficulties reading, and who had already experienced so much failure in their young lives.

During the time of five years, the researcher returned to graduate school to earn a teaching certificate, did student teaching in three schools, secured her first teaching job, taught in an alternate junior-senior school for students who did not function well in regular schools, and she taught briefly in an elementary school. While she was teaching at the elementary school, she became sick and a physician recommended that she stop teaching because "the environmental pollutants were making her ill."<sup>1</sup> The writer can personally testify to the mental confusion which comes when a chemically sensitive person is exposed to an offending substance.

While the writer was able to retire from the classroom, the child cannot leave the classroom if his education is to continue. The writer has carefully planned the teaching-learning center to be as free as possible from pollutants. Natural materials such as cotton rather than plastics were used to house the supplies. Acrylic paint was used on the shell. Consideration was given to art supplies that were safe to use in the classroom. However, because of

---

<sup>1</sup>The physician is Stevan Cordas, D.O., 813 Brown Trail, Bedford, Texas, 76021.

the variables in the body chemistry of individual children,<sup>1</sup> no learning center can be constructed to be safe for all children.

The teacher must be aware of the needs of individual students and use appropriate art materials with each individual child. The art room offers possibilities for cognitive growth, however care must be taken not to erase this growth with unsafe art materials and outside pollutants.

The writer selected from Piaget's theory of Stages of Intellectual Development, Dewey's statement of Art as Experience, and Williams and Wood's Developmental Art Therapy curriculum areas for the development of the teaching-learning center. After searching through relevant literature, the writer planned for use of art to teach reading, math, and other subjects. For children who are having problems, either academic or emotional, the use of art enhances the learning process in many subjects.

The writer concludes that the process or experience of art is of vital importance to the growth and development of the child's cognitive areas and to his self worth, and as such, should be given more importance in the elementary school than the end product or art object. Developmental

---

<sup>1</sup>Roger J. Williams, You Are Extraordinary (New York: Pyramid Books, 1974), p. 71.

Art Therapy,<sup>1</sup> by Williams and Wood outlines a developmental approach to art therapy with specific directions for the teacher to lead the child through these stages:

Stage One: Responding to the Environment with  
Pleasure

Stage Two: Learning Skills that Bring Success

Stages Three

and Four: Learning Skills for Group Participation  
to Enhance Self-Esteem

The writer recommends the use of principles outlined in Developmental Art Therapy<sup>2</sup> and in Teaching Through Modality Strengths: Concepts and Practices<sup>3</sup> to enhance the modality strength of the kinesthetic learner.

For children who are experiencing difficulties in the classroom, the Swassing-Barbe Modality Index is recommended to test for individual modality preference. To document growth, the Silver Test of Cognitive and Creative Skills "which used drawing tasks to assess the child's understanding of the concept of a class or group of objects, the concept of space, and of sequential order and conserva-

---

<sup>1</sup>Geraldine H. Williams and Mary M. Wood, Developmental Art Therapy (Baltimore: University Park Press, 1977).

<sup>2</sup>Ibid.

<sup>3</sup>Barbe and Swassing, Teaching Through Modality Strengths: Concepts and Practices.

tion"<sup>1</sup> can be used as a pre and post test.

If the writer had only one art resource to help the kinesthetic child to develop, she would recommend painting. Use a large, longhandled brush, newsprint or even old newspapers, liquid poster paint in red, yellow, and blue. The child should be encouraged to paint, paint, paint. He could paint a picture of the story which was read in class, he could paint a design using numerals, or he could paint a picture of his problems or angry feelings, for "Art, as therapy, is a healing experience."<sup>2</sup>

#### IMPLICATIONS FOR FUTURE RESEARCH

The writer suggests that the following studies would further the field of knowledge concerning the kinesthetic learner:

1. Kinesthetic learners would follow the curriculum outlined by Williams and Wood, through the developmental sequences in Developmental Art Therapy<sup>3</sup>

---

<sup>1</sup>Silver, Assessing and Developing Cognitive Skills in Handicapped Children Through Art.

<sup>2</sup>Geraldine H. Williams and Mary M. Wood, Developmental Art Therapy (Baltimore: University Park Press, 1977), p. vii.

<sup>3</sup>Ibid.

2. Kinesthetic learners follow the guidelines outlined by Rawley A. Silver in Art Therapy; Cognitive Development; Concept Formation; Creativity; Self Esteem; Test Validity<sup>1</sup>
3. Kinesthetic learners complete the Figurative Therapy Reading assignments as presented in The Psychotherapy and Reading Clinic<sup>2</sup>
4. Study the results of school work of kinesthetic children who worked only in environmentally safer classrooms, using toxic free art materials<sup>3</sup>

---

<sup>1</sup>Silver, Assessing and Developing Cognitive Skills in Handicapped Children Through Art.

<sup>2</sup>Arline Cooper, The Psychotherapy and Reading Clinic (Washington D.C.: ERIC Document Reproduction Service, ED 092 870, 1973).

<sup>3</sup>Kathleen A. Blume, "Air Pollution in the Schools", in Clinical Ecology, ed. Lawrence D. Dickey (Springfield, Illinois: Charles C. Thomas, 1976), pp. 369-376.

## CHAPTER VII

PLAN FOR TEACHER USE OF THE  
TEACHING-LEARNING ART THERAPY  
RESOURCE CENTER  
FOR THE ELEMENTARY CLASSROOM

Plan for Teacher Use of the  
Teaching-Learning Center

- I. The teacher will view the filmstrip "A Common Sense Approach to Learning: The Swassing-Barbe Modality Index" and listen to the accompanying cassette tape.
- II. The teacher will read Teaching Through Modality Strengths: Concepts and Practices.
- III. The teacher will review Developmental Art Therapy.
- IV. The teacher will study subject responses (Appendix E through Appendix R) in An Empirical Study of Selected Art Therapy Theories and Methods Applied To a Foundation Resource Center For the Kinesthetic Learner in the Elementary Classroom.
- V. The teacher will audit the list of possible pollutants in the classroom.
- VI. The teacher will compare the writer's response to those of the subject's responses.
- VII. The teacher will survey the list of contents in the trunk with the actual key resource materials.
- VIII. The teacher will select lesson guidelines to use in the classroom.

### Preface

The teacher who plans to use the Teaching-Learning Art Therapy Resource Center will need to study the contents of the trunk and will need to read the included materials concerning the kinesthetic learning modality and the developmental art theories.

The theoretical base for the resource center has been taken from Piaget's theory of Stages of Intellectual Development, Dewey's statement of Art as Experience, Williams and Wood's Developmental Art Therapy curriculum areas, and The National Art Education Association's Essentials of a Quality School Art Program premise that man use art to understand himself and his environment.

The kinesthetic learner needs to be taught through his strengths, that is through tactile and movement methods. For the kinesthetic child to touch is to learn.



### Writers Response to Subject's Responses

If the modality strength is not discernable by observation, The Swassing-Barbe Modality Index is a reliable instrument for testing modality strengths.

Two responses for key characteristics of a kinesthetic child were given as tired, and high energy level. While these answers may seem paradoxial, the writer has seen the same student exhibit both of the characteristics within one class period. Randolph describes these maladapted responses which were caused by allergy producing stimuli in sensitive persons.<sup>1</sup> Randolph names these responses as hyperactive, irritable, hungry, thirsty, indecisiveness, depressed spirits, emotional instability, impaired attention, poor reading comprehension, poorly controlled motor activity, and others.<sup>2</sup> Persons interested in this phenomenon should read Randolph's books.

The writer has observed difficulties of the kinesthetic learner as were listed by the subjects.

The writer recommended the deletion of sandpaper as suggested for use in question five and six. Rios stated

---

<sup>1</sup>Theron G. Randolph, "Stimulatory and Withdrawal Levels and the Alternations of Allergic Manifestations," in Clinical Ecology, ed. Lawrence D. Dickey (Springfield, Illinois 1976), pp. 156-175.

<sup>2</sup>Ibid.

that no sandpaper should be used with children since the child, while rubbing the rough texture, could release some flint. If the child then rubbed his eye, the flint on his finger could injure the eye.<sup>1</sup>

The writer would not include markers in the trunk. Some markers contain kerosene. Scented markers pollute the air in the classroom. Pencil crayons or map colors are a good substitute for markers.

The writer confirms that all the methods given by subjects in answer to question seven could be used with the kinesthetic learner. However, learning modalities should always be considered and if the student has difficulty learning, the kinesthetic method should be employed. "Provide adequate space for movement, while going through the kinesthetic modality, combine this methodology with auditory and visual input, use positive reinforcement, be innovative and creative--remember, the child lives in a perceptual-motor world; he must make a perceptual-motor match (Kephart) to validate what is heard, seen, and felt."<sup>2</sup>

---

<sup>1</sup>Interview with John F. Rios, Texas Woman's University, Denton, Texas, June 1982.

<sup>2</sup>Response from Wallace L. Edge, assistant professor of Special Education, Texas Woman's University.

### Pollutants in the Classroom

The following items which were found in one school can pollute the air in the classroom and may cause allergic reactions in sensitive children.<sup>1</sup> These allergic reactions can impede the learning process.

#### Aerosol Sprays:

- generally contain Freon
- insecticides
- spray snow
- spray plastic
- solvent cleaner for business machines
- room deodorants

#### Janitorial Supplies and Pesticides:

- services of an exterminating company monthly
- cleaning compounds
- detergents
- scouring powders that contain chlorine
- scented germicide or fungicide
- dust mop dressings
- furniture polish
- dusting sprays

---

<sup>1</sup>Blume, "Air Pollution in the Schools," pp. 369-376.

wax

room deodorizers

insectide strip

Scholastic Supplies:

marking pens

rubber cement

paints in spray cans

lacquers

thinners

fixatives

Heating, Ventilating, and Cooking Equipment:

fumes from gas and fuel oil space heaters

gas escaping from gas appliances

Bunsen burners

inadequate ventilating fans

Building Materials and Furnishings:

soft plastics, rubber

synthetic materials

adhesives

sealers

materials impregnated with chemicals and insecticides

flooring gassing out

synthetic carpeting

plastic and fiberglass draperies

Smoking:

tobacco smoke can move through the ventilating system

School Buses:

exhaust fumes

gasoline pump fumes

Inventory of Art TrunkFilmstrip and Cassette Tape:

A Common Sense Approach to Learning:

The Swassing-Barbe Modality Index

Books for Teacher:

An Empirical Study of Selected Art Therapy Theories and  
Methods Applied to a Foundation Resource Center for  
the Kinesthetic Learner

Analyzing Children's Art

Developmental Art Therapy

The Swassing-Barbe Modality Index

Teaching Through Modality Strengths: Concepts and  
Practices

Books for Children:

Children's Crafts

Easy-To-Make Paper Art Activities for Holidays and  
Seasons

I Can Make a Rainbow

I've Got Me and I'm Glad

Kites to Make and Fly

The Magic Boat, A Book to Turn and Move

People Need Each Other

Shapes and Colors, Cutouts for Creative Geometric  
Designs

File Card Boxes:

Art

Kites

Math

Reading

Movement

Manipulative Items:

buttons

marbles

8 minature baskets

pea gravel

items from the sea

shells

seeds

Packets:

Environmental Studies 1

Environmental Studies 2

Paint Supplies:

long handled brush

oil pastels

tempra paint

watercolors

water color pens

pencil crayons

paper samples

Pegs:

6 inch peg board  
10 inch peg board  
2 inch wood pegs  
2½ inch log pegs  
12 inch dowels  
craft sticks

Shapes:

triangle & diamond template  
flannel numerals  
animal flannel cutouts  
geometric shapes (paper)  
wooden beads

Textures:

5 woven placemats-natural fibers  
1 calf hide placemat  
pieces of different cloth textures  
pipe cleaners  
yarn & lacing needle  
screen wire

Miscellaneous:

vegetable & fruit poster cards  
record, marching music  
Elmer's Glue-All  
lefty scissors



### Guidelines for Art Activities

These guidelines are given to motivate the creative thinking of the teacher to innovative use of the key resource materials. The Montessori structured classroom lends itself to stage the kinesthetic learner's quest for self-initiated activities.<sup>1</sup> Some educators are now saying that reading does not need to be taught. "What children need are the cognitive and perceptual capabilities to learn to read and a reason to learn to read."<sup>2</sup>

Abstract knowledge dealing with "number, mass, area, volume, length, class, order, time, speed, and weight" is acquired by inventions from "actions on objects; actions are the source."<sup>3</sup>

The goal for the kinesthetic learner is to guide his "actions on objects"<sup>4</sup> to develop cognitive and perceptual development. The teaching-learning art resource center is ideally suited to this developmental task.

"Piaget cites....three independent structures, i.e., not reducible to one another, from which all mathematical

---

<sup>1</sup>Barry J. Wadsworth, Piaget for the Classroom (New York: Longman Inc., 1978), p. 103.

<sup>2</sup>Ibid., p. 123.

<sup>3</sup>Ibid., p. 55.

<sup>4</sup>Ibid., p. 55.

structures can be generated. One structure is based on ideas of space and applies to neighborhoods, borders, points of view, and frames of reference. A second structure is based on the idea of a group and applies to numbers and classifications. The third is based on ideas of sequential order and applies to relationships."<sup>1</sup> "Predictive drawing, painting, and modeling clay all involve ability to represent spatial concepts and to order sequentially."<sup>2</sup>

The most frequently mentioned key resource material is clay. While I have not placed any clay in the trunk, clay should be a part of the kinesthetic learner's experience. In the BACKGROUND of this paper I have referred to the successful use of clay. Developmental Art Therapy has a chapter titled, "Clay...the Sublime Material" which the teacher should use as a guideline.

Example for use of I've Got Me and I'm Glad:

p. 8 - The pupil will cut pictures from magazines and will make a collage to show my family, my favorite thing, things I like to do at home, sad things, etc.

---

<sup>1</sup>Silver, Assessing and Developing Cognitive Skills in Handicapped Children Through Art, p. 7.

<sup>2</sup>Ibid., p. 9.

Example for People Need Each Other use:

p. 61 - The pupil will draw a picture of a place  
of interest in his community

Note to the teacher: do not mimeograph a copy of the pages  
in the two preceding books and give the same page to each  
child in the room.

Examples for manipulative items:

The student will place buttons, marbles, gravel,  
shells or seeds in the small baskets;

The student will count the marbles;

The student will sort the seeds placing like kind  
together in an empty egg carton;

The student will sort the buttons by color;

The student will draw a picture showing a  
particular button in use

The possibilities for art projects using the manipulative  
items is endless. Let the children plan some of the art  
activities.

Example for Environmental Studies:

The Happening - Go out and find positive evidence  
that something natural happened. Draw a picture  
of the natural happening.

Examples for finger painting, crayons, and poster painting are found in Developmental Art Therapy.

Examples for Pegs:

The student will make a design on the peg board using the 2 inch wood pegs; the student will use crayons to draw this design on paper.

Example for Shapes:

The student will use the triangle template to make a design

Example for Textures:

The student will make a rubbing by placing paper over a textured surface, such as the placemats, and rub with crayons

Example for Vegetable and Fruit Poster Cards:

The student will trace his finger around the outline of the fruit; the student will draw a picture of the fruit growing in an orchard

### Summary for the Teacher

We do not all perceive the world in the same manner.<sup>1</sup> If one, because of color blindness, cannot distinguish the color red from the color green,<sup>2</sup> it will be difficult for him to paint the trees in his picture the appropriate color. The handicap of the kinesthetic is just as great as that of the color blind person. The kinesthetic child may need to touch and to climb in a tree in order to draw an accurate picture of the tree.

Torrance<sup>3</sup> said that his students could not understand their teacher's verbal approval of the student's creative work when the teacher gave many directions for changing this work. The teacher should let the child be free to do creative work with a minimum of restrictions being given by the teacher. Edwards had suggested, "Ideally, all information should be presented in at least

---

<sup>1</sup> Humphry Osmond with John A. Osmundsen and Jerome Agel, Understanding Understanding (New York: Harper & Row, Publishers, 1974).

<sup>2</sup> Martin Johnson, "Color Defectiveness: a Personal Account," Journal of Orthomolecular Psychiatry 9 (First Quarter 1980): 21-23.

<sup>3</sup>E. Paul Torrance, Rewarding Creative Behavior (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), p. 244.

two modes: verbal and pictographic."<sup>1</sup> This method of giving the directions for class work in two modes would be appropriate for kinesthetic learners.

---

<sup>1</sup>Betty Edwards, Drawing on the Right Side of the Brain (New York: J. T. Tarcher, Inc., 1979), p. 197.

## APPENDIXES

APPENDIX A

COPY OF LETTER OF PERMISSION TO DO STUDY

TEXAS WOMAN'S UNIVERSITY  
Human Research Committee

Name of Investigator: \_\_\_\_\_ Center: \_\_\_\_\_  
Address: \_\_\_\_\_ Ms. Norma G. Miller Date: \_\_\_\_\_  
5321 Wooten Drive \_\_\_\_\_ Denton  
Fort Worth, Texas 76133 \_\_\_\_\_ August 29, 1978

Dear \_\_\_\_\_

Ms. Miller:  
Your study entitled An Empirical Study of Selected Art Therapy Theo-  
has been reviewed by a Panel and Methods Appropriate to the Foundation of the  
Center for the Kinesthetic Learner in the Elem-  
and it appears to meet all requirements in regard to protection of the  
individual's rights.

Please be reminded that both the University and the Department  
of Health, Education and Welfare regulations require that written  
consents must be obtained from all human subjects in your studies.  
These forms must be kept on file by you.

Furthermore, should your project change, another review by  
the Committee is required, according to DHEW regulations.

Sincerely,

*C. K. Rojice*

Chairman, Human Research  
Review Committee

at \_\_\_\_\_  
Denton



APPENDIX B

5321 Wooten Drive  
Fort Worth, TX 76133  
May 1, 1982

Walter B. Barbe, Ph.D., Editor  
HIGHLIGHTS FOR CHILDREN  
823 Church Street  
Honesdale, PA 18431

Dear Dr. Barbe:

I am in the process of completing a thesis at Texas Woman's University. I would like your assistance in completing a survey which is an important part of my thesis.

In order for me to do the survey within the guidelines of the Human Research Committee, I would appreciate your signature on the enclosed CONSENT form.

Enclosed is the seven-point QUESTIONNAIRE which I will use to collect data.

Your prompt return of the enclosed materials will be deeply appreciated.

Sincerely,

Norma L. Miller

## APPENDIX C

### CONSENT FORM

#### TEXAS WOMAN'S UNIVERSITY

#### CONSENT TO ACT AS A SUBJECT FOR RESEARCH AND INVESTIGATION

1. I hereby authorize Norma L. Miller to perform the following procedures:  
  
Present me with a questionnaire (containing 7 questions) about kinesthetic learners.  
Analyze questionnaire data to obtain qualitative data from the quantitative data. Report counts from subjective and quantitative data, develop correlations and report findings in a descriptive manner which will describe meaning of all responses by delineating each variable.
2. The subject's name will be on the questionnaire. The subject's name will not be used in any release of the data.
3. The benefits of the study will be the facilitation of the teaching-learning for the kinesthetic child. Completed data will be available to the subject if it is requested.
4. The writer will make available to the subject the Prospectus of a Thesis An Empirical Study of Selected Art Therapy Theories and Methods Applied to a Foundation Resource Center for the Kinesthetic Learner in the Elementary Classroom. To those being interviewed by mail, the writer will supply a cassette tape on which the subject may or may not make additional comments.
5. The writer will endeavor to answer any and all inquiries concerning the procedures.
6. The subject is free to withdraw his consent and to discontinue participation in the project at any time.

This is to certify that I have read and understand the items mentioned above, including a fair explanation of the procedures and their purpose, any associated discomforts or risks, and a description of the possible benefits. An offer has been made to me to answer all questions about the study. I understand that my name will not be used in any release of the data and that I am free to withdraw at any time.

---

Subject's signature

---

Date

APPENDIX D

SAMPLE QUESTIONNAIRE

NAME \_\_\_\_\_

POSITION \_\_\_\_\_

AREAS OF SPECIALIZATION \_\_\_\_\_

1. Have you ever had a student who you could identify as a kinesthetic child? Yes \_\_\_\_\_ NO \_\_\_\_\_ Undecided \_\_\_\_\_
2. What identifiable variables did you use to determine the child was a kinesthetic learner?  
\_\_\_\_\_  
\_\_\_\_\_
3. What would you say the key characteristics of a kinesthetic child are?  
\_\_\_\_\_  
\_\_\_\_\_
4. Have you observed a kinesthetic learner encountering specific difficulties in the classroom? Yes \_\_\_\_\_ No \_\_\_\_\_  
List types of difficulties:  
\_\_\_\_\_  
\_\_\_\_\_
5. What teaching methods would you suggest be used with the kinesthetic learner?  
\_\_\_\_\_  
\_\_\_\_\_

6. Describe (in order of priority) the key resource materials you would place in a portable teaching-learning art resource center for the kinesthetic child.

---

---

---

7. Describe the most significant methods, theories, or concepts you believe should be recommended for the teacher who will use a portable teaching-learning art resource center for the kinesthetic child in conjunction with the elementary classroom learner.

---

---

---

---

---

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

# APPENDIX E

## QUESTION 1 RESPONSE

1. Have you ever had a student who you could identify as a kinesthetic child? Yes \_\_\_\_\_ No \_\_\_\_\_ Undecided \_\_\_\_\_

RES. NO.	YES.	NO	UNDECIDED
1	x		
2			x
3	x		
4	x		
5	x		
6	x		
7	x		
8	x		
9	x		
10	x		
11	x		
12	x		
13	x		
14	no answer		
15	x		
16	x		
17	x		
18	x		
19		x	
20			x
21	x		
22			x
23	x		
24	x		
25	<u>x</u>	<u>—</u>	<u>—</u>
TOTALS	20	1	3

## APPENDIX F

### QUESTION 2 CUMULATIVE DATA

2. What identifiable variables did you use to determine the child was a kinesthetic learner?

<u>Answer</u>	<u>No. Times Given</u>
Motor	9
Tactile Approaches	5
Modalities	9
Observation	7
Neurological Assessment	1
Testing	7
Poor Writing	2
Manipulative Materials	7
Miscellaneous	2

## APPENDIX G

### QUESTION 2 RESPONSES

2. What identifiable variables did you use to determine the child was a kinesthetic learner?

RES. NO.	MOTOR	TACTILE APPROACHES	MODALITIES
1.	body motions	tactile approaches	verbalizations of corresponding body actions
2.			
3.			
4.	motor creativ- ity (fluency, originality, flexibility in solving move- ment problems)		
5.	always doodling with objects		
6.			does not learn primarily through eyes and ears, learns by doing and feeling
7.			
8.			unable to learn in auditory or visual way
9.	hyperactivity (not diet related)		

## Question 2 - Continued

RES. NO.	MOTOR	TACTILE APPROACHES	MODALITIES
10.			
11.			
12.	hyperactive		poor auditory and visual memory
13.			
14.	no answer		
15.			
16.	need for move- ment in class- room	manner of ap- proaching tasks	
17.	child was able to retain spelling words, letters, or vocabulary words by writ- ing them		child demonstrated the need to move through an action to identify the function of an object
18.		tracing, feel- ing	
19.	puzzles, form boards, and games that require use of hands or body		most children learn by combination of two learning modalities
20.		child's success in using projects with hands on	child's choice of learning activities
21.			



## Question 2 - Continued

RES. NO.	MOTOR	TACTILE APPROACHES	MODALITIES
22.			had child trace and sound letters simultaneously
23.			spelling verbally and spelling by tracing word with finger on a rough surface
24.			
25.	student is often more active than normal in the classroom	often touches things or people	

## Question 2 - Continued

RES. NO.	OBSERVATION	NEUROLOGICAL ASSESSMENT	TESTING
1.			
2.	observation		
3.	clinical observation	neurological assessment	psycho-educational differential assessment
4.	observation of motor planning, impulse control		
5.	observation: lack of inter- est, short attention span		
6.			
7.			
8.			test--high perform- ance and low verbal on IQ test
9.			
10.			Mills Learning Style Inventory, Purdue Perceptual Motor
11.			Material presented through each modal- ity and combination of modalities to determine individual learning style
12.			
13.			

## Question 2 - Continued

RES. NO.	OBSERVATION	NEUROLOGICAL ASSESSMENT	TESTING
14.			
15.	observation		Swassing-Barbe Modality Test
16.			
17.			
18.			
19.			
20.			
21.	observation		
22.			
23.			
24.			The Zaner-Bloser Modality Kit
25.	observing that a child does not learn well, or enjoy learn- ing, by reading and writing, one may logi- cally assume that child learns by lis- tening, doing, and talking		

## Question 2 - Continued

RES. NO.	POOR WRITING	MANIPULATIVE MATERIALS	MISCELLANEOUS
1.			
2.			
3.			
4.			
5.		usually skilled with manipula- tive materials	
6.			
7.		learns by inter-acting with materials	
8.			
9.			
10.			
11.			
12.		manual contact necessary in order to learn	not very creative
13.	not able to stay on line, almost uncon- trolled method of writing		
14.			
15.			
16.			pastimes

## Question 2 - Continued

RES. NO.	POOR WRITING	MANIPULATIVE MATERIALS	MISCELLANEOUS
17.			
18.		manipulation	
19.		variety of manipulatives	
20.		manipulative- type activities	
21.			
22.			
23.		doing math with and without materials to manipulate	
24.			
25.			

## APPENDIX H

### QUESTION 3 CUMULATIVE DATA

3. What would you say the key characteristics of a kinesthetic child are?

<u>Answer</u>	<u>No. Times Given</u>
Movement	6
Muscle	8
Restless	5
Uptight	4
Touch	10
Energy	2
Doer	3
Athletic	3
Non-Reader	1
Math	1
Hyperactive	5
Attention Span	3
Miscellaneous	4

## APPENDIX I

### QUESTION 3 RESPONSES

3. What would you say the key characteristics of a kinesthetic child are?

RES. NO.	MOVEMENT	MUSCLE	RESTLESS
1.	in movement constantly/ frequently	awareness of musculature and body feeling	
2.			restless
3.	ability to learn through movements of the body	ability to learn through muscle feeling kinesthetic proprioceptive	
4.		creative (motorically)	
5.			
6.			restless and often becomes behavior problem, lack of interest in regular school activities
7.			hard to sit still
8.	movement		
9.			stemming when re- quired to sit still
10.			

## Question 3 - Continued

RES. NO.	MOVEMENT	MUSCLE	RESTLESS
11.	benefits through body movements	muscle feeling	
12.			
13.		unable to use muscles to hold pencil to per- form fine and gross motor skills	
14.			
15.			
16.	need for move- ment as an ad- junct to sen- sory input through sight or hearing		
17.	child whose ability to re- member informa- tion is depend- ent upon the use of movement		
18.		learning en- hanced through kinesthetic stimulation	
19.			
20.			
21.			



## Question 3 - Continued

RES. NO.	MOVEMENT	MUSCLE	RESTLESS
22.		cannot learn through visual and/or auditory only	
23.			
24.		poor attention span unless using hands, wants to touch everything	fidgets
25.			

## Question 3 - Continued

RES. NO.	UPTIGHT	TOUCH	ENERGY
1.			
2.	uptight		tired
3.		tactile	
4.		responds well to tactile stimuli, likes touch--physical, praise, hug	high energy level
5.			
6.	lives more in a world apart as this child does not feel he belongs		
7.			
8.		learns better through touch and movement	
9.			
10.		learns best when able to touch/ feel in order to assimilate	
11.			
12.	short-tempered, and impatient	learns best by manipulation	
13.			
14.	difficult to control		

## Question 3 - Continued

RES. NO.	UPTIGHT	TOUCH	ENERGY
15.			
16.			
17.			
18.			
19.			
20.			
21.		recognizes stimuli and gains informa- tion through touching or being touched	
22.			
23.		learns more quick- ly when he can "feel" the thing to be learned	
24.			
25.		touches, handles, and experiments much of the time, more than the average student, enjoys being touched	

## Question 3 - Continued

RES. NO.	DOER	ATHLETIC	NON-READER
1.			
2.			
3.			
4.	a doer rather than thinker	skilled, success- ful in using hands	
5.		tendency to be athletic	non-reader
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.	learns best by doing		
16.			
17.			
18.			

## Question 3 - Continued

RES. NO.	DOER	ATHLETIC	NON-READER
19.	learns best by doing	physically involved in learning tasks	
20.			
21.			
22.			
23.			
24.			
25.			

## Question 3 - Continued

RES. NO.	MATH	HYPERACTIVE	ATTENTION SPAN
1.			
2.		hyperactive	
3.			
4.			
5.	usually adequate in math		
6.			
7.		hyper	
8.			
9.		hyper activity	
10.			
11.			
12.		hyperactive	
13.			
14.		hyperactive	
15.			
16.			
17.			
18.			
19.			

## Question 3 - Continued

RES. NO.	MATH	HYPERACTIVE	ATTENTION SPAN
20.			inability to finish assignments; side- tracked easily; short attention span
21.			
22.			
23.			
24.			not attentive to visual or auditory presentations
25.			

## Question 3 - Continued

---

RES. NO.	MISCELLANEOUS
-------------	---------------

---

- |     |                                     |
|-----|-------------------------------------|
| 1.  |                                     |
| 2.  |                                     |
| 3.  |                                     |
| 4.  |                                     |
| 5.  |                                     |
| 6.  |                                     |
| 7.  | cannot take<br>verbal<br>directions |
| 8.  |                                     |
| 9.  | persevering<br>behavior             |
| 10. |                                     |
| 11. |                                     |
| 12. | low in abstract<br>problem solving  |
| 13. |                                     |
| 14. | change in mental<br>facilities      |
| 15. |                                     |
| 16. |                                     |
| 17. |                                     |
| 18. |                                     |
| 19. |                                     |



## Question 3 - Continued

---

RES.	MISCELLANEOUS
NO.	

---

20.

21.

22.

23.

24.

25.

## APPENDIX J

### QUESTION 4 CUMULATIVE DATA

4. Have you observed a kinesthetic learner encountering specific difficulties in the classroom? Yes \_\_\_\_\_ No \_\_\_\_\_  
List types of difficulties.

<u>Answer</u>	<u>No. Times Given</u>
Discipline Problem	5
Can't Sit Still	6
Auditory	10
Visual	7
Reading	6
Math	4
Motor Task	7
Doing	1
Poor Self-Image	2
Listening	2
Miscellaneous	4

# APPENDIX K

## QUESTION 4 RESPONSES

4. Have you observed a kinesthetic learner encountering specific difficulties in the classroom? Yes\_\_\_\_\_ No\_\_\_\_\_

RES. NO.	YES	NO	DISCIPLINE PROBLEM	CAN'T SIT STILL
1.		x		
2.	x		discipline problem	can't sit still
3.	x			
4.	x			
5.	x			
6.	x			
7.	x		no self-control	can't sit still
8.	x			
9.	x			inability to sit still long enough to complete work
10.	x			
11.	x			
12.	x			
13.	x			
14.	x		disinterest	
15.	x			

## Question 4 - Continued

RES. NO.	YES	NO	DISCIPLINE PROBLEM	CAN'T SIT STILL
16.	x			inability to remain still through lecture or seat-work
17.	x			
18.	x			
19.		x		perhaps many hyper- active children who can't sit still are kinesthetic learn- ers
20.	x			
21.	x			
22.	x			
23.	x			
24.	x		sometimes destructive	must touch and manipulate things
25.	x		being forced to read or write, either fakes it, abstains from it or does it with complaints and frequent interruptions	

## Question 4 - Continued

RES. NO.	AUDITORY	VISUAL	READING
1.			
2.			
3.	imperceptions	imperceptions	difficulty when presented primarily through auditory and visual modalities
4.			
5.			non-reader
6.			
7.	cannot understand verbal directions - talks out		
8.	not able to learn by auditory	not able to learn by visual modality	
9.			
10.		emphasis needed to combine visual/kinesthetic learning	
11.	most material is presented orally, requiring oral response	material presented with visual aids	
12.			reading skills
13.			
14.			

## Question 4 - Continued

RES. NO.	AUDITORY	VISUAL	READING
15.	impatience with only lecture method of teaching		
16.			
17.	has difficulty discriminating sounds when modeled by the teacher	has difficulty recognizing letters and words by sight	
18.	auditory chan- nel learning	visual channel learning	
19.			
20.			
21.	difficulty auditorially	difficulty visually	
22.	even in repeat- ing retention was minimal		
23.			can't remember new sight words
24.			does not read and answer questions well
25.			being forced to read

## Question 4 - Continued

RES. NO.	MATH	MOTOR TASK	DOING
1.			
2.			
3.	difficuly when presented pri- marily through auditory and visual modali- ties		
4.		can't learn motor task by hearing di- rections and seeing demon- stration	must have materials in hand and learn by doing
5.	usually ade- quate in math		
6.			
7.			
8.			
9.			
10.		some coordination difficulties	
11.		requiring a fine motor (pencil/ paper) response	
12.	math skills		
13.		not being able to copy from the board	
14.			

## Question 4 - Continued

RES. NO.	MATH	MOTOR TASK	DOING
15.			
16.			
17.			
18.			
19.			
20.		poor handwriting	
21.			
22.			
23.	can't do math	teachers who do not allow children to use sense of touch to "figure out" learning problems have many frustrated non-learners	
24.			
25.			



## Question 4 - Continued

RES. NO.	POOR SELF-IMAGE	LISTENING	MISCELLANEOUS
1.			
2.			
3.			
4.		can't remember unless he takes notes/writes out what he needs to learn instead of just listening	
5.			athletic
6.	is unable to achieve; feels defeated and a failure; hungers for attention		
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			short attention span
15.			
16.			
17.			

## Question 4 - Continued

RES. NO.	POOR SELF-IMAGE	LISTENING	MISCELLANEOUS
18.			
19.			
20.	frustration in keeping up with class		lack of interest at times; low level of organization
21.			
22.			
23.			can't spell
24.		does not listen well	
25.			

## APPENDIX L

### QUESTION 5 CUMULATIVE DATA

5. What teaching methods would you suggest be used with the kinesthetic learner?

<u>Answer</u>	<u>No. Times Given</u>
Movement	6
Tactile	8
Motor	2
Creativity	3
Reading	2
Therapy	3
Specific Theorists	7
Allergy Testing	1
Curriculum	4
Manipulative	6
Miscellaneous	3

## APPENDIX M

### QUESTION 5 RESPONSES

5. What teaching methods would you suggest be used with the kinesthetic learner?

RES. NO.	MOVEMENT	TACTILE	MOTOR
1.	tie constant movement procedures toward symbols		
2.			
3.	utilize strengths in the tactile, kinesthetic proprioceptive areas (touch, movement, feelings) to facilitate learning		
4.	lots of movement exploration		motor creativity assessment and approach
5.			
6.		opportunity to handle, to arrange, to rearrange	
7.		on-hands experience	
8.	use movement to teach a concept	writing on tactual surface	
9.			
10.			
11.			

## Question 5 - Continued

RES. NO.	MOVEMENT	TACTILE	MOTOR
12.		much manipulative material, tracing alphabet and words on sandpaper helpful	
13.		tracing, sandpaper letters and num- bers	
14.			
15.			
16.			
17.	use of large movements (writing, trac- ing in air)	tracing--sand- paper or other textures as guide	
18.			
19.	games and activi- ties that require use of hands and body		
20.			
21.		"on hands"-- touching or being touched	
22.			
23.			
24.			have the student write what is to be learned
25.			

## Question 5 - Continued

RES. NO.	CREATIVITY	READING	THERAPY
1.			
2.			
3.			
4.	problem solving with different art materials and textures; integration of dramatics with visual arts		
5.		illustrate child's own stories--write the story--reading followed	
6.	design materials in a creative way		
7.			
8.			
9.			use of art ther- apy, recreation therapy, play therapy
10.			
11.			
12.			
13.			
14.			
15.			

## Question 5 - Continued

RES. NO.	CREATIVITY	READING	THERAPY
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.		trace words for reading or spell- ing	
24.			
25.			

## Question 5 - Continued

RES. NO.	SPECIFIC THEORISTS	ALLERGY TESTING	CURRICULUM
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.	Slingerland/ Gillingham; Frostig		
11.	Fernald; Frostig; Spalding; Slingerland Gillingham-Orton		
12.			
13.			
14.		educate the par- ents so the child will have proper allergy testing for foods and chemicals	
15.			a more activity- centered curric- ulum



## Question 5 - Continued

RES. NO.	SPECIFIC THEORISTS	ALLERGY TESTING	CURRICULUM
16.			work stations, independent but structured as- signments
17.			
18.			
19.			
20.			
21.			
22.			one-to-one basis
23.			
24.			
25.			talking to stu- dent, getting frequent feed- back to make sure he is understanding, then asking student to solve problems orally and physically

## Question 5 - Continued

RES. NO.	MANIPULATIVE	MISCELLANEOUS
1.		
2.		well trained teacher who under- stands this modality
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.	opportunities to compare by feel- ing of sizes, materials	
13.		
14.		
15.		
16.		
17.		
18.		multi-sensory approach as much as possible

## Question 5 - Continued

RES. NO.	MANIPULATIVE	MISCELLANEOUS
19.	use of manipula- tives	computers program- med in different learning areas useful, if it re- quires child to manipulate various keys
20.	special projects with manipulative learning skills	
21.		
22.	manipulative materials	
23.	concrete objects to manipulate when learning a new math concept	
24.	use manipulative activities	
25.		

## APPENDIX N

### QUESTION 6 CUMULATIVE DATA

6. Describe (in order of priority) the key resource materials you would place in a portable teaching-learning art resource center for the kinesthetic child.

<u>Answer</u>	<u>No. Times Given</u>
Movement	2
Activities	7
Classroom	1
Tactile	10
Clay	11
Paper	10
Natural Materials	4
Markers	5
Painting Materials	11
Sandpaper	3
Printing	2
Scissors	8
Stencils	3
Templates	3
Tracing Materials	2
Improvised Art Materials	5
Wood Working	3
Miscellaneous	14

QUESTION 6 ANSWERS BY PRIORITY

99

## APPENDIX P

### QUESTION 6 RESPONSES

6. Describe (in order of priority) the key resource materials you would place in a portable teaching-learning art resource center for the kinesthetic child.

RES. NO.	MOVEMENT	ACTIVITIES	CLASSROOM
1.	movement games, records (tapes) of rhythmic beats (march, waltz, syncopated breaks)		
2.		physical-type activities	
3.			adequate space, structured for kinesthetic input
4.		different textures for finger, toe, and body painting	
5.			
6.		materials for sculpturing, making collages and mobiles	
7.			
8.			
9.			
10.			

## Question 6 - Continued

RES. NO.	MOVEMENT	ACTIVITIES	CLASSROOM
11.	opportunity to combine art activities with gross motor movement	water activities	
12.			
13.			
14.			
15.	no answer		
16.			
17.		water table (con- cepts)	
18.			
19.			
20.		simple materials that require no special instruc- tion for use and no understanding of how or why the material is used	
21.		blowing bubbles	
22.	no answer		
23.			
24.			
25.			

## Question 6 - Continued

RES. NO.	TACTILE	CLAY	PAPER
1.			
2.			
3.	tray of wet sand, different textures, different weights		
4.	fabrics of different textures		paper of different textures
5.			
6.		clay of various kinds	heavy paper materials, newsprint
7.		modeling clay (oil base)	paper
8.		clay	
9.		clay	paper
10.			
11.	material with variety of textures, shapes sizes		large sheets of paper with paint
12.		clay	
13.	3-D materials, textures		
14.			
15.			
16.		modeling clay	



## Question 6 - Continued

RES. NO.	TACTILE	CLAY	PAPER
17.	sand box (textures)	modeling clay	
18.	sand	clay	
19.	scraps of materials, environmental trash box (bottle caps, jar lids, etc.)		paper of various colors and textures
20.			
21.	textured materials, peg boards, geometric shapes	clay	
22.			
23.		clay	
24.	shapes (geometric) 3-dimensional letters and numbers		unlined paper; colored paper of different textures
25.		modeling putty	paper

## Question 6 - Continued

RES. NO.	NATURAL MATERIALS	MARKERS	PAINTING MATERIALS
1.			
2.			
3.			
4.			
5.			
6.	seeds, grains, gravel to create objects on paper		finger painting
7.		scented markers	craypas
8.			finger paint
9.	rocks, shells, things gathered outdoors		
10.		markers	paint brushes, crayons, paint
11.			
12.			
13.			
14.	use of natural items in 3- dimensions		
15.			
16.		large magic markers	
17.			finger paints
18.			paint

## Question 6 - Continued

RES. NO.	NATURAL MATERIALS	MARKERS	PAINTING MATERIALS
19.		markers	paint and paint brushes
20.			
21.			
22.			
23.			finger paint
24.	sticks		crayons, poster paint and brushes
25.		colored felt- tip markers	crayons, colored chalk

## Question 6 - Continued

RES. NO.	SANDPAPER	PRINTING	SCISSORS
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.	sandpaper to draw on	printing	
9.			cut-paste mate- rials
10.			scissors
11.			cutting with scissors
12.			cutting to re- produce a pat- tern to see likeness and difference
13.	sandpaper		
14.			
15.			
16.		linoleum cutting tools	scissors
17.			

## Question 6 - Continued

RES. NO.	SANDPAPER	PRINTING	SCISSORS
18.			
19.	sandpaper		scissors
20.			
21.			scissors
22.			
23.			
24.			scissors
25.			

## Question 6 - Continued

RES. NO.	STENCILS	TEMPLATES	TRACING MATERIALS
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.	stencils		
11.	stencils	templates	tracing materials: pictures, designs, stencils, plastic, paper
12.		plastic templates with shapes (different sizes)	
13.			
14.			
15.			
16.			
17.			
18.			
19.	stencils	templates	tracing

## Question 6 - Continued

RES. NO.	STENCILS	TEMPLATES	TRACING MATERIALS
20.			
21.			
22.			
23.			
24.			
25.			

## Question 6 - Continued

RES. NO.	IMPROVISED ART MATERIALS	WOOD WORKING	MISCELLANEOUS
1.			
2.			
3.			
4.			
5.			variety of materials; teacher needs to know child's needs and fit the materials to his needs
6.			plaster of Paris
7.			
8.			weaving
9.	glitter-glue		
10.			visual-motor programs
11.	chalkboard, chalk		
12.			playdough
13.	string, beads, buttons		almost anything child can use as an art form



## Question 6 - Continued

RES. NO.	IMPROVISED ART MATERIALS	WOOD WORKING	MISCELLANEOUS
14.			sources for homemade art materials free from petrochemi- cals and artifi- cial dyes. <u>Heloise</u> books/ columns give many receipes
15.			
16.		wood working	exacto knives
17.			
18.			
19.	containers of such items as macaroni, beads, gravel	tools--hammer, screw driver; nails and screws; scraps of wood	glue, needles and thread, yarn, hole puncher (to make lacing cards)
20.			
21.			temperature ele- ments (hot to cold); floor mats
22.			
23.			blocks (building)
24.			glue, beads, blocks, cards, thread, needles, hole punch
25.	pieces of plastic and metal	various sizes and shapes of pieces of wood	pencils, pens

## APPENDIX Q

### QUESTION 7 CUMULATIVE DATA

7. Describe the most significant methods, theories, or concepts you believe should be recommended for the teacher who will use a portable teaching-learning art resource center for the kinesthetic child in conjunction with the elementary classroom learner.

<u>Answer</u>	<u>No. Times Given</u>
Expressive Arts	3
Modalities	9
Movement	4
Reinforcement	3
Motor	4
Video Taping	1
Body Image	1
One-to-One	2
Named Theorists	13
Art Therapy	1
Touch	3
Clinical Ecology	1
Group Work	1
Teacher Training	1
Music	1
Exploration	1
Create and Explain	1

## APPENDIX R

### QUESTION 7 RESPONSES

7. Describe the most significant methods, theories, or concepts you believe should be recommended for the teacher who will use a portable teaching-learning art resource center for the kinesthetic child in conjunction with the elementary classroom learner.

RES. NO.	EXPRESSIVE ARTS	MODALITIES	MOVEMENT
1.	expressive arts should be used to teach "basics"-- get away (if pos- sible) from the canned publishers reading and arithmetic books/ work books		
2.		good theory good practice	
3.	be innovative and creative	while going through the kin- esthetic modality combine this methodology with auditory and visual input	provide adequate space for move- ment
4.		lots of approach- es used with deaf children who also tend to learn kinesthetically	
5.			

## Question 7 - Continued

RES. NO.	EXPRESSIVE ARTS	MODALITIES	MOVEMENT
6.		for kinesthetic learners to touch and to feel is to learn; the teacher should provide opportunities for the child to experiment through touching, feeling, and handling a wide variety of materials.	
7.			
8.	no answer		
9.	teach academics with art methods/ mediums		
10.			
11.			
12.		the auditory and visual memory needs to be stimulated, but child will be more secure if he feels he can rely on the kinesthetic materials presented first by the teacher	
13.			if he can get his whole body in it, so much the better
14.			

## Question 7 - Continued

RES. NO.	EXPRESSIVE ARTS	MODALITIES	MOVEMENT
15.			
16.			
17.		a multisensory approach which allows kinesthetic reinforcement will help the child to receive information through his strongest pathway and yet he will begin to experience other possible pathways to receive information	all children learn through movement to a certain extent
18.		multisensory approach to fuse strengths with weaknesses to enhance learning	
19.		should never be geared strictly to visual or auditory stimulation	materials which require movement of the body
20.			
21.			
22.			
23.			

## Question 7 - Continued

RES. NO.	EXPRESSIVE ARTS	MODALITIES	MOVEMENT
24.		teacher should organize lessons around modality strengths of stu- dents. According to Barbe and Swassing, modality based instruction takes two forms: initial teaching strategies and 2nd strategies that are used when a child fails to grasp a basic skill as it is presented	
25.			

## Question 7 - Continued

RES. NO.	REINFORCEMENT	MOTOR	VIDEOTAPING
1.			
2.			
3.	use positive reinforcement	remember, the child lives in a perceptual-motor world, he must make a perceptual motor match (Kephart) to validate what is heard, seen, and felt	
4.		Wyrtek Motor Creativity Test; book <u>Creative Arts for Severely Handicapped</u> , chapter on motor creativity; Torrance Creativity in Thinking & Moving Test	Videotaping or filming kinesi- thetic learner as he learns a new activity "by doing," allow him to see himself learning & understand to appreciate his own method of learning
5.	lots of praise and reassurance		
6.			
7.	immediate reinforcement-- positive speaking, touching, if appropriate, few words		
8.			

## Question 7 - Continued

RES. NO.	REINFORCEMENT	MOTOR	VIDEOTAPING
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			



## Question 7 - Continued

RES. NO.	BODY IMAGE	ONE-TO-ONE	NAMED THEORISTS
1.			
2.			
3.			Kephart
4.	lots of body image work in young kinesthe- tic learners		Wyrick Torrance Sherrill
5.		the kinesthetic child needs one- to-one teaching method, using a variety of mate- rials, ideas, motivation techniques	
6.			
7.		I would instruct the child during the time he is doing the work	
8.			
9.			
10.			Slingerland/Gil- lingham; Frostig
11.			Research by Kep- hart; teaching strategies by Grace Fernald, Marianne Frostig
12.			
13.			

## Question 7 - Continued

RES. NO.	BODY IMAGE	ONE-TO-ONE	NAMED THEORISTS
14.			L. D. Dickey, M.D. William J. Crook, M.D.
15.			Barbe, <u>Basic Skills in Kindergarten</u>
16.			Milone, <u>Basic Skills in Kindergarten</u>
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			

## Question 7 - Continued

RES. NO.	ART THERAPY	NEUROPSYCHOLOGY TRENDS	TOUCH
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.	work for develop- mental progress through art therapy		
9.			
10.		neuropsychology trends, the teacher should be exposed to this	
11.			
12.			materials chil- dren can feel
13.			art work with a feel, something he can work with and feel the difference, large objects that he can hold onto and work with
14.			

## Question 7 - Continued

RES. NO.	ART THERAPY	NEUROPSYCHOLOGY TRENDS	TOUCH
15.			
16.			
17.			
18.			
19.			important for materials to stimulate the sense of touch
20.			
21.			
22.			
23.			
24.			
25.			

## Question 7 - Continued

RES. NO.	CLINICAL ECOLOGY	GROUP WORK	TEACHER TRAINING
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.	Some scholastic supplies give off toxic fumes. Many marking pens contain a volatile, toxic solvent. Watercolor, which has little or no odor, is recommended for use in schools. Rubber cement contains petroleum naptha, which could produce depression or excitation.		

## Question 7 - Continued

RES. NO.	CLINICAL ECOLOGY	GROUP WORK	TEACHER TRAINING
	<p>Use nontoxic Elmer's Glue-All. Paints, lacquers, thinners, fixatives, and plastics generally contain solvents such as toluene and turpentine. Nearly all volatile organic solvents possessing lipid solubility appear to be capable of producing intoxicating effects to a greater or lesser degree, as well as mild euphoria, excitation and delusions. This is especially true in a crowded, warm, poorly ventilated classroom. For this reason, additional exhaust ventilation is needed in art rooms.<sup>1</sup></p>		
15.			
16.			
17.			
18.			

---

<sup>1</sup>Kathleen A. Blume, "Air Pollution in the Schools," in Clinical Ecology, ed. Lawrence D. Dickey (Springfield, Illinois: Charles C. Thomas Publisher, 1976), pp. 369-376.

## Question 7 - Continued

RES. NO.	CLINICAL ECOLOGY	GROUP WORK	TEACHER TRAINING
19.			
20.		group work designed to allow the kinesthetic to be a part of class activity while succeeding in a project he is able to handle	
21.			teacher should be trained to use the resource center as to method and objectives, in-service program, book of instructions accompanying the center
22.			
23.			
24.			
25.			

## Question 7 - Continued

RES. NO.	MUSIC	EXPLORATION	CREATE AND EXPLAIN
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			



## Question 7 - Continued

RES. NO.	MUSIC	EXPLORATION	CREATE AND EXPLAIN
22.	explain a musical selection, play the tape or record, have child draw what the music portrays to him		
23.		allow child to explore materials & possibilities for their use; give him plenty of time with one medium before introducing a new one	
24.			
25.			1-ask the child to create something that makes him happy and explain it to the teacher 2-ask the child to create something which that child would like to show and explain to another child 3-ask the child to create something which that child would like to give to one or both parents and explain to them

APPENDIX S



## APPENDIX T

### Modality: A Common Sense Approach to Learning

#### Pilot Project 277

*Dates:* November 1, 1979, to April 30, 1980

*School:* Career Planning Academy

*Personnel:* Judith Hopkins, Social Work Graduate Student  
Monna Loftis, Community Involvement Specialist

*Number of Students:* 105

*Project Description:* The purpose of the Modality Index is to determine a person's most efficient learning pathway. A person may learn most efficiently by visual means (seeing), by auditory means (listening and talking), or by kinesthetic means (involving large and small muscles, experiencing). In some cases, two or all three modalities may be equally as strong. Objectives of the project included identifying the learning modality of students at the Career Planning Academy, identifying the learning modality of Career Academy teachers, and providing modality data to individual students and teachers to facilitate the teaching/learning process.

*Project Evaluation:* The Swassing-Barbe Modality Index was utilized to identify the learning modality of all students at the Career Planning Academy and to identify the learning and teaching modalities of teachers. Modality data was then provided for individual students and teachers to facilitate the teaching/learning process.

Previous to administering the Swassing-Barbe Modality Index, 54 students (45%) were able to accurately predict their individual learning modality, and 66 students (55%) could not accurately predict their learning modality. A posttest administered to 75 students revealed that 58 students (77%) knew their individual learning modality, and 17 students (23%) did not know their individual learning modality. In both the pre and posttest, students agreed that it is important to know one's prevalent learning modality.

The time involved in administering the Swassing-Barbe Modality Index seems to preclude its usefulness for all students at the Academy. Evaluation indicates, however, that the index would be useful in facilitating the teaching/learning process for individual students with learning difficulties.

The following chart shows the learning modality at the Academy as determined by the Swassing-Barbe Modality Index.

## LEARNING MODALITIES OF STUDENTS

Career Planning Academy

March 1, 1980

<u>Learning Modality</u>	<u>Number of Students</u>	<u>Percentage of Students</u>
Auditory	5	5
Auditory - Kinesthetic*	7	6.7
Auditory - Visual*	3	2.9
Kinesthetic	29	27.6
Kinesthetic - Visual*	23	21.9
Visual	28	26.7
Mixed**	10	9.5

---

\*Equal strength in both modalities

\*\*Equal strength in all three modalities

*Recommendation:* Use the Swassing-Barbe Modality Index only for students who have learning difficulties and need individual help presented in their dominant mode of learning.

## BIBLIOGRAPHY

- American Art Therapy Association. Art Therapy. Pittsburgh, Pennsylvania: American Art Therapy Association, n.d.
- The American Journal of Art Therapy.
- Art Educators of New Jersey. Insights, Art in Special Education. Millburn, New Jersey: Art Educators of New Jersey, 1976.
- Barbe, Walter B., and Swassing, Raymond H. Teaching Through Modality Strengths: Concepts and Practices. Columbus, Ohio: Zaner-Bloser, Inc., 1979.
- Betensky, Mala. Self-Discovery through Self-Expression. Springfield, Illinois: Charles C. Thomas, 1973.
- Blume, Kathleen A. "Air Pollution in the Schools." In Clinical Ecology, pp. 369-376. Edited by Lawrence D. Dickey. Springfield, Illinois: Charles C. Thomas Publisher, 1976.
- Challem, Jack. "Learning Disabilities, One Family's Struggle." Let's Live, December 1980, pp. 25-29.
- Cooper, Arline. The Psychotherapy and Reading Clinic. Washington, D.C.: ERIC Document Reproduction Service, ED 092 870, 1973.
- Cott, Allan. "Symptoms and Treatment of Children with Learning Disorders." In Ecologic-Biochemical Approaches to Treatment of Delinquents and Criminals, pp. 206-228. Edited by Leonard J. Hippchen. New York: Van Nostrand Reinhold Company, 1978.
- Crook, William G. Can Your Child Read? Is He Hyperactive? Jackson, Tennessee: Professional Books, revised edition, 1977.
- Dewey, John. Art As Experience. New York: Minton, Balch & Company, 1934.
- Diamond, John. BK Behavioral Kinesiology. New York: Harper and Row, Publishers, 1979.

- Edwards, Betty. Drawing on the Right Side of the Brain. Los Angeles: J. P. Tarcher, Inc., 1979.
- Feldman, Edmund Burke. Becoming Human through Art. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970.
- Fellman, Bruce. "Is Your Child Allergic to School?" Prevention May 1982, pp. 123-130.
- Gaitskell, Charles D., and Hurwitz, Al. Children and Their Art. 2nd ed. New York: Harcourt, Brace & World, Inc., 1970.
- Golos, Natalie, and Golbitz, Frances Golos. Coping With Your Allergies. New York: Simon and Schuster, 1979.
- Hayes, Marnell L. Oh Dear, Somebody Said "Learning Disabilities"! San Rafael, California: Academic Therapy Publications, 1975.
- Herberholz, Barbara. Early Childhood Art. Dubuque, Iowa: William C. Brown Company, Publishers, 1974.
- Hodnett, Mary Lee. "A Broader View of Art Therapy." Art Psychotherapy 1 (1973): 75-79.
- Kavner, Richard S., and Dusky, Lorraine. Total Vision. New York: A. & W. Publishers, Inc., 1978.
- Kellog, Rhoda. Analyzing Children's Art. Palo Alto, California: Mayfield Publishing Co., 1970.
- Lowenfeld, Viktor, and Brittain, W. Lambert. Creative and Mental Growth. 6th ed. New York: Macmillan Publishing Co., Inc., 1975.
- McNiff, Shaun, and McNiff, Karen. "Art Therapy in the Classroom." Art Teacher 6 (Spring 1976): 10-12.
- Morlan, John E. Classroom Learning Centers. Belmont, California: Fearon Publishers, 1974.
- Osmond, Humphry with John A. Osmundsen and Jerome Agel. Understanding Understanding. New York: Harper & Row, Publishers, 1974.

- Philpott, William H. "The Relationship Between Addictive Drive and Maladaptive Social Behavior." Paper presented at the National College of Juvenile Justice, Graduate College University of Nevada, Reno, Nevada, 15 June 1979.
- Philpott, William H., and Kalita, Dwight K. Brain Allergies. New Canaan, Connecticut: Keats Publishing, Inc., 1980.
- Ponte, Lowell. "How Artificial Light Affects Your Health." Reader's Digest, February 1981, pp. 131-134.
- Randolph, Theron G. Human Ecology and Susceptibility to the Chemical Environment. Springfield, Illinois: Charles C. Thomas, 1978.
- Rapp, Doris J. Allergies and the Hyperactive Child. New York: Simon & Schuster, 1980.
- Robinson, Helen F. Exploring Teaching in Early Childhood Education. Boston: Allyn and Bacon, Inc., 1977.
- Rose, Arden. Interacting through Creative Art Activities. Palo Alto, California: Learning Handbooks, 1976.
- Schwebel, Milton, and Raph, Jane, eds. Piaget in the Classroom. New York: Basic Books, Inc., Publishers, 1973.
- Sherrill, Claudine, ed. Creative Arts for the Severely Handicapped. Fort Worth: Perko Printing Co., 1977.
- Silver, Rawley A., and others. Assessing and Developing Cognitive Skills in Handicapped Children Through Art. New Rochelle, New York: ERIC Document Reproduction Service, ED 209 878, 1980.
- Smith, Lendon H. Improving Your Child's Behavior Chemistry. New York: Pocket Books, 1977.
- Stein, Jess, ed. The Random House Dictionary of the English Language: The Unabridged Edition. New York: Random House, 1967.
- Swassing-Barbe Modality Index. Study Guide and Script. Columbus, Ohio: Zaner-Bloser, 1979.
- Torrance, E. Paul. Rewarding Creative Behavior. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965.

- Uhlin, Donald M. Art For Exceptional Children. 2nd ed.  
Dubuque, Iowa: William C. Brown Company Publishers,  
1979.
- Williams, Geraldine H., and Wood, Mary M. Developmental Art  
Therapy. Baltimore, Maryland: University Park Press,  
1977.
- Williams, Roger J. You Are Extraordinary. New York: Pyramid  
Books, 1974.
- Williams, Roger M. "Why Children Should Draw, the Surprising  
Link Between Art and Learning." Saturday Review,  
September 3, 1977, pp. 11-16.