

THE UNIVERSITY OF CALGARY

SATISFACTION AND ABILITY CHANGES IN JUNIOR HIGH SCHOOL STUDENTS
FROM DIRECTED OBSERVATION LESSONS IN FIGURE DRAWING

by

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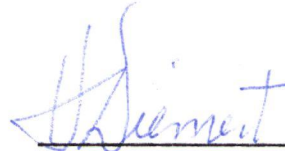


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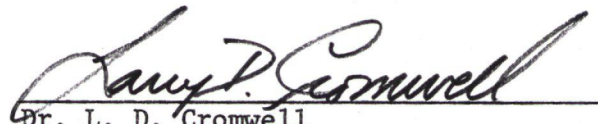
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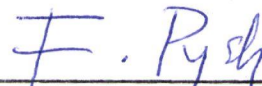
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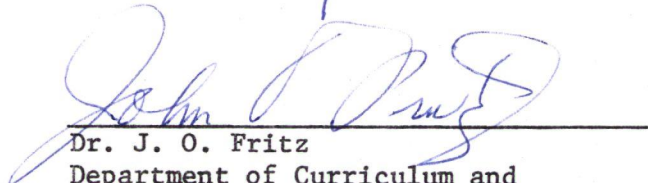
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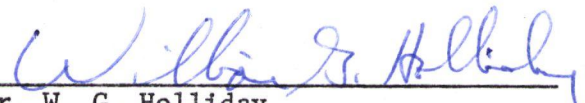
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ABSTRACT

Problem

The purpose of this study was to determine if directed observation lessons in figure drawing would improve the drawing ability and satisfaction with drawing of grade seven students. The literature revealed that the drawing development of most people is arrested at adolescence, during which period individuals often become dissatisfied with the results of their drawing activity. The human figure was determined to be the most popular subject and a realistic mode of representation, the most desired technical achievement of adolescents.

Procedures

A pre-test, post-test with control group design was used. Experimental and control groups were randomly selected and randomly assigned. Pre- and post-tests were given in the form of an unassisted drawing from a standing figure. The control group received a series of lessons, typical of drawing instruction in junior high school, involving a variety of drawing activities and model poses. The experimental group received a series of lessons comprising sequentially ordered drawing tasks designed to direct attention to large shape relationships before details while involving perceptual training techniques. A satisfaction/dissatisfaction scale adapted from a study by Lienard was used by the subjects to determine the relative amount of satisfaction the finished drawing gave its producer. A panel of five expert judges used an evaluation guide, developed by the researcher, to grade the drawings on five criteria indicating dimensions of accurate drawing. The data

comprised six covariates and six dependent variables. Measures taken on the five criteria for accurate drawing and satisfaction on the pre-test served as covariates, while measures taken on these variables in the post-test were the dependent variables. These data were analysed using the technique of multivariate analysis of covariance.

Findings

The multivariate F-ratio test revealed group differences existed on one or more of the dependent variables considered simultaneously ($p < .002$). Step-down analysis indicated that instruction produced significant differences in favour of the experimental group on the criterion variables of proportion and satisfaction. Satisfaction and ability total scores were positively correlated ($p < .05$) on the post-test for the control group and for both groups combined. Increases in satisfaction were thought to be stimulated by the higher level of realism in subjects' drawings.

Implications

Implications for educational practice were that students in grade seven should receive directed observation lessons in figure drawing in order that they can achieve the "realism" desired by themselves. Teachers may use the teaching strategy described in the study in order to develop in students the ability to make drawings that are more accurate in terms of proportion. Because drawing is basic to many aspects of the art education curriculum, skills acquired may benefit the student in other areas of art.

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As the result of passing under the eagle eye of Mrs. E. L. Wittig and through the typewriter of Mrs. B. Clark at the Department of Stenographic Services this thesis achieved presentable form.

Finally, thanks to Thelma for putting up with an irritable and distracted husband for the duration.

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CHAPTER I

INTRODUCTION TO THE PROBLEM

Responsible teachers of art in junior high schools inevitably become concerned with the difficulties of teaching students who, frequently, are experiencing increasing dissatisfaction with the results of their work. Together with dissatisfaction also comes a "drying up" of students' aesthetic fluency and a subsequent degeneration of their visual symbols.

This phenomenon has been frequently reported in the literature. Harry S. Broudy¹ suggested that at about age twelve the creator is no longer satisfied with the results of his efforts. In fact, Broudy speculated, every individual in every aesthetic medium reaches a critical time when either techniques have to be cultivated consciously to keep pace with expressive needs or the medium will be abandoned.

Obviously, examination of this problem in terms of the universal sense of "art" was not possible. In this study, the relationship of the above problem to drawing, an art-related activity, was examined. Drawing, however, may be regarded in the art program as either a vehicle for the creative expression of the child or as a means of developing perceptual skills and strategies employed in recording realistic visual images. Both motivations for drawing should exist in the art program. For the purpose of this thesis, the latter meaning is intended unless otherwise indicated.

In the literature there are many references to the degeneration

of visual symbols in adolescent drawing. Betty Lark-Horovitz, Hilda Lewis, and Marc Luca have explained how this deterioration occurs. Once the child has fully developed his schemata and feels there is no more he can add or improve, he begins to draw in an almost "automatic" fashion. He will draw with increasing rapidity and carelessness causing his symbols to degenerate. The drawings become dull and uninteresting, and his images lose form, accuracy, and character. This state of automatism must be overcome within a relatively short time or stagnation may lead to a permanent regression.²

The problem faced by the art teacher in this situation is obvious. Is there a teaching strategy that will allow the student to continue to develop the quality of his imagery during early adolescence in a manner that is satisfying to him? A search of the literature revealed many suggestions that may be aligned with one of two alternate philosophies regarding mode of instruction.

The teacher may accept the theories of the developmentalists and expend his energies in soliciting "expected" imagery from given developmental stages, or he may strengthen and broaden the ability range in his charges through an educational program based on the structure of the discipline. Edmund B. Feldman criticized developmental theory when he claimed that the fact that children normally create imagery of a certain type, at a certain stage of their development, does not mean that the art curriculum should be devoted mainly to the production of such imagery.³ He also maintained that developmental theory contained no inherent justification for teaching as it equates artistic expression with a pattern of development which would occur

just as well in the absence of teaching.⁴

If this theory is accepted perhaps it is not unreasonable to speculate that occurrence of expressive inability and dissatisfaction during adolescence results from teaching according to developmental theory.

Broudy displayed concern with this question of satisfaction and expressive inability when he made the observation that some educators have elevated the artistic originality and facility of children to the position of an educational principle.⁵ In order to prolong this principle no requirement other than the satisfaction of the creator is expected. There is nothing wrong with this idea, Broudy said, so long as the creator is satisfied. He also pointed out, however, that with age the distinction between fantasy and reality becomes clearer and the symbols that adequately served the five-year-old probably would not be satisfactory for the twelve-year-old.⁶

STATEMENT OF THE PROBLEM

The purpose of this research was to answer the following major question:

Once the student has begun to experience dissatisfaction with drawing, is it possible for the teacher to renew satisfaction through instruction relevant to the adolescent's desires and preferences?

This major question was broken into three smaller and more specific questions:

1. *Does a change in the satisfaction of grade seven students*

with their drawing occur after a series of directed observation lessons in figure drawing?

2. *Does a change in the ability of grade seven students to draw accurately from a model occur after a series of directed observation lessons in figure drawing?*
3. *Does a relationship exist between the two variables, satisfaction and ability?*

IMPORTANCE OF THE STUDY

The question of selecting an appropriate teaching strategy for students who have reached the most critical stage of aesthetic development is of major concern to teachers of art in junior high schools and to many leading art educators. Several writers have reported the difficulties inherent in this question, but little has been contributed by way of specific accomplishment in the field of curriculum development or in the formation of teaching strategies designed to accommodate these difficulties.

Kenneth Lansing expressed concern regarding art curriculum generally when he observed,

Probably the area that most urgently needs to be studied is curriculum development. We need to work with experts in drawing, painting, printmaking, sculpture, crafts, art history and aesthetics to develop sequential programs in each of these areas from kindergarten through the high school.⁷

It was hoped the results of the present study would indicate that a relationship exists between drawing ability and student satisfaction with drawing at the grade seven level. Also, it was anticipated that the teaching strategies employed in this research may

provide curriculum builders with some concrete aid in the development of a drawing program which accommodates the difficulties of dissatisfaction with drawing and the corresponding declining quality of visual symbols employed in the art work of young adolescent students.

ASSUMPTIONS AND LIMITATIONS

The following assumptions have been based upon information reported in the literature. They constituted important underpinnings of the research:

1. Grade seven students have the desire to draw the human figure.
2. Grade seven students have the desire to change their drawing abilities in order to be able to render images representing a higher level of development than that at which they are now situated.
3. Due to the gap existing between conception and execution, grade seven students have begun to experience some frustration with drawing.
4. Changes in the drawing ability of children can be measured.
5. Satisfaction or dissatisfaction of students may be measured by response to written statements.

The following limitations were recognized:

1. Drawing subjects were restricted to the human figure. The literature suggested this theme as being the one most commonly preferred. Obviously other subject matter could have been used but it is reasonable to expect that drawing strategies employed in representing the figure are generalizable to other drawing stimuli.
2. To the best of the researcher's knowledge only one instrument

has been developed for the purpose of measuring student satisfaction with art work.⁸ The validity and reliability of satisfaction scores obtained was necessarily limited by the nature of this instrument.

3. Materials for the experiment were restricted to 3B pencils and 18 inch by 24 inch drawing paper, to avoid confounding the data with responses produced by particularly unusual materials.

DEFINITION OF TERMS

Some terms used possessed a particularity of usage which must be made explicit here:

Accuracy in drawing. The closeness with which the relationships and proportions of the component parts of a drawing approximate the appearance of the model from which the drawing is made.

Drawing. The process of making marks on a surface to form lines, tones, and textures in order to obtain an image of a perceived object, using media with value ranges from black to white.

Drawing strategy. The process of selecting the most suitable combination of drawing skills from a store of previously learned operations for the purpose of solving the problem posed by the complex cluster of relationships which are perceived in any drawing situation.

Sequence. A succession of experiences in a subject field, each of which builds on and is determined by the preceding one; requires the clarity of the elements of a subject on which to base the sequence which is developed from the concrete to the abstract; each level demands

increasing intellectual rigour on the part of the learner.⁹

Perceptual development. Increase in the ability to utilize the visual information located in the contours of objects in order to produce representational drawings of these objects.¹⁰

Perceptual training. "Instruction which develops the ability to observe and respond selectively to visual stimuli. For the purposes of this study perceptual training exercises will direct attention to visual cues located in the contours of forms."¹¹

Satisfaction. The feeling of gratification attributable to stimulation generated by the subject's own drawing.

In dealing with student satisfaction in drawing, this investigation touched upon one aspect of "attitude." H. C. Triandis examined the definitions of many attitude theorists and has concluded that attitudes are comprised of three major components:

1. a cognitive component (the idea)
2. an affective component (the emotion which charges the idea)
3. a behavioural component (predisposition to action)¹²

This study was concerned with attitude in that student satisfaction with drawing would give an indication of attitude. It would do this since "satisfaction" may be regarded as an element of the affective component of attitude. Triandis claimed,

If a person "feels good" or "feels bad" when he thinks about the category [the idea] we would say that he has a positive or negative affect toward the members of this category.¹³

Therefore, if a person "feels satisfied" or "feels dissatisfied" upon thinking about a category it follows that this reaction is also an

indication of positive or negative affect.

Technique. Use of the drawing instrument in such a manner that its range of image-making qualities is aptly employed.

FOOTNOTES TO CHAPTER I

¹Harry S. Broudy, "Some Duties of a Theory of Educational Aesthetics," Aesthetics and Problems of Education (Urbana, Ill.: University of Illinois Press, 1971), p. 110.

²Betty Lark-Horovitz, Hilda Lewis, and Marc Luca, Understanding Children's Art for Better Teaching (Columbus, Ohio: Charles E. Merrill Books Inc., 1967), p. 99.

³Edmund B. Feldman, Becoming Human Through Art (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1970), p. 158.

⁴Ibid., p. 146.

⁵Broudy, loc. cit.

⁶Ibid.

⁷Kenneth M. Lansing, Art, Artists, and Art Education (New York: McGraw Hill, 1971), p. 634.

⁸Marguerite Lienard, in Satisfaction/Dissatisfaction Scale "What is the Relationship of Children's Satisfaction with their Art Products to Improvement in Art?" Studies in Art Education, 3, 1 (Fall, 1961), 56-57.

⁹Neil C. Johnson, "Identification, Validation and Sequencing of Drawing Concepts for the Junior High School Art Curriculum" (unpublished Master's thesis, The University of Calgary, 1971), p. 5.

¹⁰Richard A. Salome, "The Effects of Perceptual Training Upon the Two-Dimensional Drawings of Children," Studies in Art Education, 7, 1 (Autumn, 1965), 19.

¹¹Ibid.

¹²Harry C. Triandis, Attitude and Attitude Change (New York: John Wiley and Sons, Inc., 1971), p. 3.

¹³Ibid.

CHAPTER II

REVIEW OF THE LITERATURE

The material in this chapter is divided into three sections, each dealing with empirical research and theoretical material. The first section deals with literature related to the drawing ability of young adolescents; the second covers student satisfaction and preferences in drawing, and the third discusses methods of inducing change in student drawing ability.

THEORETICAL MATERIAL RELATING TO DRAWING ABILITY OF YOUNG ADOLESCENTS

Whenever art activity of the young adolescent has been discussed in writings of the major art educators, expressions such as "stiffness," "lack of spontaneity," "increasing self-consciousness," "frustration," "increasing self-criticism," and so on appear with monotonous regularity. There seems to be a general consensus regarding an overall ability problem encountered by the adolescent as he enters puberty.

Harry S. Broudy referred to this difficulty in general terms when he claimed that aesthetic activity for most people is arrested at the level of adolescence due, in large part, to the lag of techniques behind expressive needs and the pressure of socially unavoidable stereotypes.¹

Elliot Eisner supported Broudy's generalization in terms related specifically to drawing. He referred to the findings of Goodenough, Harris, and Lowenfeld who all pointed out that children's ability to

draw or paint does not develop much after adolescence except in the case where teaching or self-instruction has taken place. This occurrence is not surprising, Eisner suggested, as the ability to draw well is a complex skill and there is no good reason to assume that such skill should develop on its own. Most complex skills, in fact, develop only so far under the natural course of ordinary experience.²

Helen Diemert suggested one cause of the adolescent drawing problem could be the traditional use of linear symbols in student expression.³ She observed that as children advance from the symbolic stage of their development they become concerned with achieving greater realism in their drawings. They experience a need to find ways of arriving at convincing results that reveal more detail and variety than they can achieve with bold linear symbols. The difficulty of the linear approach may be best understood when one considers the complex mental processes involved in such effort often leading to disappointment and frustration.

Vincent Lanier saw an increasing facility for critical evaluation during adolescence as another reason for restricted expressive behaviour during this period. In speaking about characteristics of the adolescent he said,

1. Along with the burgeoning intellectual and manipulative ability, the adolescent greatly increases his aesthetic sensitivity in this period. Properly guided he has a growing capacity to respond to works of art of all types and on a high level.

2. On the other hand his own productive behaviour is most often restricted--particularly in the starting years of puberty--by a rigorously critical attitude. What seventh grade teacher has not heard a comment similar to "I can't even draw a straight line!" from her pupils? Most frequently, this critical attitude is directed towards representational skill in the areas of drawing or painting.⁴

Daniel Mendelowitz espoused views which concur with those of Lanier. He referred to the increased intellectual maturity of adolescence which, he pointed out, allows a more sustained span of interest and a more independent and disciplined approach to acquiring knowledge and techniques. The teen-ager, when personally interested, is capable of a sustained and systematic enquiry into fields like figure drawing and human anatomy.

Mendelowitz, however, also testified to the awkwardness and naïveté in drawing of the adolescent. The student will often attempt drawings of subjects, such as animals, figures, and self portraits, which lie beyond his range of abilities and the results of such effort are subsequently regarded critically by the creator. Upon finding dissatisfaction with this, Mendelowitz suggested that the student will often turn to memory drawings or landscapes, street-scenes, and still-lives.⁵

The inference of Mendelowitz' writing is that the adolescent should receive instruction in drawing skills in order that his abilities may match expressive needs in this discipline.

John Michael referred to adolescence as a "critical period" in the aesthetic development of the student. It is during this critical period, Michael wrote, that,

. . . the individual rejects the conceptual representations of his childhood and struggles against the mixture of conceptual and perceptual characteristics of his art work during the later stages of pre-puberty.⁶

It is during adolescence that the student develops from the "uninhibited, unaware reactions of the child to the critically aware reactions of the adult." From this point on the individual tends to

rely upon a direct use of perception, or drawing what he sees, rather than relying upon concepts, or drawing what he knows.⁷

Michael intimated that the strong tendency of the adolescent to be critical of his imaginative activity tends to cause him to lose confidence in his creative ability. Consequently, he seems to express himself less and less in a visual manner.⁸

Laura Bannon has also observed children becoming increasingly critical of their work. She suggested that this phenomenon occurs at about age nine or ten, at which time children wish to explain their ideas more accurately and with greater realism. As a result, the need for greater skill is felt.⁹

Helen Merritt stated Bannon's proposition in stronger terms. She claimed that no matter what the emphasis of the school art program, an upper-grade child usually imposes the demand upon himself that his drawings conform to his own standards of realism. This demand, however, gets the child into trouble because he frequently does not possess the skill to satisfy himself.

Merritt suggested the reasons for the incidence of these demands to be pressures from home and school environments which focus the interest of the child more and more towards an accurate grasp of external reality. As a result the upper grader can no longer draw as a kindergarten does because he knows much more about the external world.¹⁰

Dale Harris has proposed that the total load of our culture is to value visual perceptions which imitate the spatial relationships of nature. Consequently, the drawing task for the child becomes a problem of making such realistic representations. If the child is left to

develop the necessary skills by his own trial and error he will generally become disillusioned and turn from drawing without ever learning the non-representative aesthetic values which he could attain upon achieving the appropriate stage of conceptual development.¹¹ If Harris' proposition is true, it follows that proper development of drawing abilities in the adolescent could be critical to his future aesthetic growth.

Kenneth Lansing called adolescence the period of "artistic decision." During this age the individual is self-conscious about what he does, while attempting to represent more abstract and complex concepts.¹²

Viktor Lowenfeld discussed the art ability of adolescents in relation to two types of individuals who seem to emerge during this stage of development. The first he called the "visual" type, who is able to relate to realism in his awareness of light and shade, atmosphere, perspective, and so on. The second type, called the "haptic," is more concerned with subjective interpretation of experience.

Both these types, however, develop a critical awareness of the environment and are interested in the representational outcome of their work. The final product must meet the individual's own expectations for expression or else disappointment will result.¹³ Lowenfeld agreed with the above writers in his statement that this is a critical period in the individual's artistic development.

Carl Reed described the adolescent, like Lowenfeld, as visual or non-visual, although he called them "reportive" and "emotive." Reed believed that each type of individual should be motivated differently.

As well, concern for bodily development by the student during adolescence usually results in increased interest in figure drawing. Reed recommended very careful guidance by the teacher during this period so the child will not become discouraged by his results.¹⁴

Reed also made the point that well-planned elementary art programs should be co-ordinated with the junior high school art programs in order that children continue their interest in creating throughout adolescence. He wrote,

If the elementary program has not kept pace with the developing child, the changes in emotional and mental attitudes accompanying the physical growth, in early teen years, will cause a wavering of the creative powers.¹⁵

Each of the above writers agreed that adolescence is a period of difficulty in the artistic development of an individual. Generally it was stated that growth of the child's critical facility seems to produce an imbroglio for him, in that the gap between aspiration and ability appears to widen. Failure to achieve self-imposed standards of realism produces dissatisfaction and possibly leads to eventual abandonment of the medium.

The most common recommendation by these authors was development of drawing skills during adolescence. If such development occurs, it was felt, the student's ability would more likely match his expressive needs. However, it was assumed that the reader is aware of the nature of these skills. Also, no specificity relating to teaching methodology was found.

EMPIRICAL FINDINGS RELATED TO THE DRAWING ABILITY
OF THE JUNIOR HIGH SCHOOL STUDENT

Opinions of the theorists, expressed above, are supported by empirical studies. Few studies have been conducted specifically for the purpose of measuring adolescent drawing ability. Studies yielding such information generally do so by way of incidental reporting.

Lambert Brittain conducted a study to determine if there is a natural form of art expression for the twelve-to-fifteen-year-old child. He arranged for a class of forty-two boys and girls to meet over a two-week period for a two-hour lesson each day. Three teachers were involved and the emphasis was upon a depth approach. Brittain discovered that no common technique of drawing existed. Some of the drawings were sketchy while others were large and bold. Despite the fact that almost all the students voiced their inability to draw the human figure, a liking for cartoons and time spent by girls drawing fashion models and portraits reflected a continuing struggle with the representation of people.¹⁶

In a study designed to examine the process of drawing and the interests guiding the child as he works, Edward Barnhart¹⁷ discovered, unlike Brittain, that as the student progressed through adolescence his drawing skill increased. Subjects used in the study were randomly selected from the Saturday morning open classes at the Cleveland Museum of Art. Fifty-two children were used; their ages ranged from five to sixteen years. Each subject drew on a special recording device which enabled the researcher to reconstruct the process employed by the child in making the drawing.

Barnhart found there was a change in the style of drawing as interest changed from the symbolic schema to the visually real object and scene. It developed from hard outline forms to loose, free, sketchily-stated and less independent units. As the child gained in facility, Barnhart found he became able in handling the sketchy technique.

With reference to the overall change in ability of the adolescent, Barnhart wrote:

With increasing age the child grew in power to create an organized composition in which parts, themselves composed of units, build up the whole. This required a grasp of the totality and the part which each item was to play in it.¹⁸

The subjects in Barnhart's study, it must be remembered, were selected from an exceptional group. A reasonable assumption would be that children attending the Saturday morning classes from which the subjects were drawn possessed ability in art beyond the average.

A study was conducted by Donald Uhlin to discover if a relationship exists between physical development and art expression.¹⁹ He used 143 students who were twelve, thirteen, or fourteen years of age. These subjects were classified according to physiological growth criteria: early, average, or late developing for boys, while girls were classified as pre-menacheal or post-menacheal (as well as early, average, or late developers).

Uhlin discovered that adolescent boys produced poorer two-dimensional work than did girls, were more rigid and non-linear in art expression than were girls, and expressed significantly more humour than did girls. Also, more mature adolescent girls expressed a greater idealized or glamorized reality than the less mature adolescent girl.

Charles and Margaret Gaitskell conducted a study aimed at determining the characteristics of adolescent art.²⁰ They observed two hundred young people over a period of six years. The subjects were boys and girls aged between ten and eighteen. The Gaitskells found that, during the years of early adolescence, students became more self-critical of their work and subsequently lost confidence in their ability to make compositions.

Early adolescence generally is a period of frustration and deficiency in drawing ability, the Gaitskells concluded. The adolescent is constantly searching for realism, an endeavour which frustrates him doubly in that he lacks the skill to produce realistic representations and his emphasis on realism seldom produces an artistic result.

A later investigation by Helen Ross and Martin Richards supported the results of the Gaitskell work.²¹ Ross and Richards attempted to determine the developmental changes in drawings of children aged four to fifteen years. The twelve hundred subjects were given paper and told to draw cats or kittens. A scoring system was devised which gave an indication of drawing ability. The drawing ability of a student, it was found, reaches a peak between the ages of eleven or twelve, then regresses to a more childish style of drawing. The two researchers hypothesized that childish forms of drawing are due to the critical attitude that arrives with puberty.

Viktor Lowenfeld attempted to discover if a child changes his relationship to his imaginative concepts as he grows older. He assigned a topic called "Playing Tag on the School Ground" to elementary through high school students. He found younger children represented the human

figure with symbols while older students used representations more closely related to reality. His conclusion was that, as the student grows older (approaches adolescence) he loses his strong subjective relationship to symbolism and becomes more critically aware of the world and himself. Lowenfeld emphasized that the child is likely to lose self-confidence during this period.²²

Each of the above studies, with the exception of Barnhart's, strongly indicated that the adolescent possesses poor drawing ability. The arrival of a critical awareness of the world and self causes loss of self-confidence and frustration. The search for reality results in imposition of standards beyond the range of mediocre drawing skills which is another factor contributing to frustration.

That Barnhart's findings did not agree with the others is not surprising if one remembers that the subjects used by him were selected from a population interested in art and, therefore, probably talented as well.

THEORETICAL MATERIAL RELATING TO STUDENT SATISFACTION AND PREFERENCES IN DRAWING

Theoretical literature revealed that the human figure is the most common subject preference of adolescents. Elliot Eisner felt that this propensity is not surprising if we assume that children tend to draw what is most important to them. Eisner reported also that frequency distributions of subject matters used in the drawings of children showed the human figure as being the most popular.²³

Carl Reed supported Eisner's comment with his observation that all junior high school classes will want to spend some time on figure

drawing. He pointed out, as well, that, because of the stage of critical development most of the students have reached, they will probably become dissatisfied with the results of their work. He recommended that the teaching approach should not be a realistic, photographic one.²⁴

Mendelowitz has found that portraits, self-portraits, figure sketches, and stylized or symbolic treatments of the human figure are the favourite subjects of the adolescent.²⁵

Revealed also in the literature was the interest displayed by the adolescent in achieving realistic representations of his subjects. Laura Bannon and Helen Merritt, it will be recalled, made the point in an earlier section of this chapter that adolescent students impose upon themselves increasing standards of realism in drawing.

Hilda Lewis carried out several studies concerning the relationship of a child's developmental status to picture preference. The results of these studies have led to some generalizations made by Betty Lark-Horovitz and Marc Luca (with whom Lewis co-authored Understanding Children's Art for Better Teaching):

Children tend to judge other children's drawings in relation to their own developmental level. They approve of pictures that are more "advanced" than their own and judge their quality in relation to the age of the author of the pictures. If a child judges a picture by a child of the same age, he will find it good when it surpasses his own level of accomplishment and will laugh at it and consider it bad art if the picture is on his own level of drawing.²⁶

These authors also reported that from age seven to fourteen children display an increasing preference for realism in pictures together with a critical interest in the content and improvement in comprehension.²⁷

Eisner studied the work of Lewis and reached this conclusion:

A drawing, for example, needs to be only as complex as necessary to communicate the idea the child intends. Children's work at this age [pre-school] tends to be pictographic. However, as a child matures, his purposes expand from not only wishing to represent an idea but of rendering the forms which carry these ideas in ways that adequately imitate the forms of the world. When this occurs, emphasis shifts from pictographic to representational painting and drawing.²⁸

Elizabeth Harrison concurred with both preferences mentioned above (people and realism) by asserting that when very young children draw people, they are not concerned with realism, but from grade five onwards, the student begins to understand proportion and wants his drawings to "look right."²⁹

Edmund Feldman claimed that the adolescent's work reflects two conflicting desires. The first is to express with fluency and fidelity his sensory and affective experience, while the second is to represent reality as he believes adults see it. These desires are incompatible, Feldman thought, because the fluency of a child's creative expression is based on the absence of adult standards of imagery and his inability to engage in serious self-criticism. Both adult standards and self-criticism make their appearance at puberty. Consequently, the child undergoes considerable agonizing in the production of art work during adolescence.³⁰

Reed, Bannon, Feldman, and others have recognized the fact that the adolescent becomes dissatisfied with the results of his efforts. Some writers have commented upon the significance of this occurrence in relation to his overall aesthetic development. Merritt suggested, not unreasonably, that a child whose anxiety about representation is appeased by a sense of achievement is often willing to go further in a creative

way than the child who is stymied because he cannot draw.³¹

Kenneth Lansing supported Merritt with this statement:

If a person has an interest in making or appraising art but doubts his own ability to make it or judge it, he is not likely to engage in that kind of work If he does produce while lacking confidence in himself, his work is not apt to be stirring or persuasive but is likely to appear hesitant, unsure and weak.³²

Lansing also hypothesized that if an individual lacks the confidence to make art he is apt to lose interest in it and turn his attention to other things. This phenomenon, he suggested, is probably what happens to a large number of students during the late figurative stage of symbolic development.³³

The reason a student loses confidence during this period, John Michael proposed, is that he feels his work is childish when evaluated according to his new-found values. In fact, the final product becomes so important that if he cannot produce something that is satisfying to himself he will feel the effort was not worthwhile regardless of how much he enjoyed the attempt.³⁴

Several definitive statements may be condensed from the foregoing observations. Adolescent students prefer the human figure as a drawing subject. Realistic representation is the most commonly desired mode of expression, which leads, however, to dissatisfaction with the final result in many cases. If the new critical awareness of the student cannot be appeased with some degree of satisfaction then it is likely that artistic endeavours will be abandoned.

EMPIRICAL STUDIES RELATING TO STUDENT SATISFACTION AND PREFERENCES IN DRAWING

Research appears to verify those statements by theorists who have suggested that common preferences of the child are the figure as favourite subject and the realistic mode of representation as the major technical preoccupation. The theory that the young adolescent becomes dissatisfied with drawing has also been supported.

Studies such as those by Maitland (1895), Lukens (1896), Ballard (1912), Luquet (1913), and Hurlock (1943) led Dale Harris to report that children draw the human figure by preference.³⁵ The Hurlock study examined the spontaneous drawings of adolescents that were collected from high school and college wastebaskets, notebooks, and so on. The human form was found to be a favourite subject exceeded only by painted and decorated words and by caricatures. When caricatures and realistic drawings of humans were combined, the human figure was by far the most favourite subject.³⁶

In the study by Lambert Brittain, described earlier in this chapter, it was noted that students displayed interest in the representation of people. Moreover, Brittain found that when these students were asked to select pictures for an exhibition they placed emphasis on detail, naturalism, and subject matter rather than any adult concept of beauty.³⁷

The previously mentioned study by Charles and Margaret Gaitskell also reported the adolescent's liking of portraiture and human life studies combined with an emphasis on realism.³⁸

Research carried out by Hilda Lewis has been most significant in

revealing the pattern of children's preferences in regard to realistic representation. In one study Lewis attempted to establish the relationship of picture preference and developmental status in drawing.³⁹ Children were asked to select the best drawing from among several representing various developmental stages--from symbolic to realistic. Pictures chosen indicated that elementary children tended to prefer drawings that were somewhat more realistic in character than those they were able to produce themselves. It is interesting to note, however, that children did not give greatest preference to the most realistic drawings but rather to those that were only somewhat more realistic than what they were able to create themselves. The reason for their choices was not stated although it indicates that children prefer less visual information than they receive from a highly realistic representation.

The results of a study conducted by Rose Alschuler and La Berta Hattwick could be related to this same problem.⁴⁰ These researchers discovered that drawing and painting served two different purposes for the young child. The drawing implement was found basic to thinking while the painting medium was more characteristic as an expressive means for the emotive child. If this predilection is carried through to adolescence it is possible that children prefer drawings which are more realistic than their own, that express ideas clearly and simply, but do not carry an over-abundance of unnecessary information. Therefore, a highly realistic picture may overstate the idea for a younger child.

The Barnhart study, reviewed earlier, reported a change in interest from the intellectual realism of the schema toward a visual realism as the child entered adolescence. Barnhart wrote:

The interest now turned toward the representation of a visually accurate natural scene. The interest in representing space led to the use of multi-planar and implicit planar modes of representing, with diminishing size and use of general perspective principles.⁴¹

In order to discover if a relationship exists between students' satisfaction with their art work and improvement in art, Marguerite Lienard conducted a study with students from grades seven, eight, and nine.⁴² These students were given materials and enough time to make several paintings and drawings. Lienard's proposition was that a general improvement in the quality of art would follow satisfaction with an art product. A statistically non-significant relationship between satisfaction and improvement was established. No attempt was made to examine the more logical proposition that satisfaction was likely to result from improvement in the art product.

From these studies we may conclude that the figure is a preferred subject and the interest of the child turns from symbolism to realistic representation as he enters puberty. Children tend to prefer drawings which are more realistic than their own but which are not necessarily extremely realistic. Young children may also prefer drawing as a means of stating ideas rather than as an expressive medium. Finally, a student who is satisfied with an art product will not necessarily produce subsequent works that reflect an improvement in quality.

THEORETICAL MATERIAL RELATING TO METHODS OF INDUCING CHANGE IN STUDENT DRAWING ABILITY

Eisner, McFee, Salome, and many other art educators have adopted the view that improvement in drawing is not the natural consequence of maturation. Eisner said:

I, therefore, start with the premise that artistic learning is not an automatic consequence of maturation. And second, that it can be facilitated through instruction.⁴³

J. K. McFee argued that differences in children's ability to handle visual information stems from variations in learning experiences; and since these differences are, in large part, learned, more adequate ways of handling visual information can probably be taught.⁴⁴

Salome⁴⁵ referred to the psychologist, F. Attenave,⁴⁶ whose discoveries in the field of perception are significant to the art educator. Attenave's proposition was that a major function of the perceptual machinery is to eliminate redundancy in visual stimulation and to describe that which remains as economically as possible. He concluded that:

1. Redundancy in visual stimulation results from areas of homogeneous colour or texture.
2. The areas of maximum visual information are concentrated along contours, especially at the points of change in direction and lines formed by abrupt colour changes.

The implication Salome derived from these conclusions was that children should receive perceptual training in conjunction with drawing activity.

Although drawing instruction was advocated by the above writers, it is important to view the notion of instruction in the light of a broader philosophical question related to the creative potential of the child and the effect of instruction upon this potential.

Two authors with opposing views in this dispute are Laura Zirbes and David Ausubel. Zirbes claimed that all children have creative

potentialities; some, however, possess more potential than others. Nevertheless, creativity is a general human potentiality, not something restricted to the "gifted." She recommended that insightful teachers should recognize the beginnings of free creative expression in children and encourage such creativity by providing suitable materials and giving it a chance to develop into something more formative. No ideas, direction, or training should be imposed.⁴⁷

Ausubel displayed contempt for this view when he declared:

Much militant sentimentality underlies the currently popular educational objective of making every child a creative thinker and of helping him discover, discontinuously, new ideas and ways of looking at things. This objective is, in part, a wish-fulfilling extension of our present-day preoccupation with actualizing the creative potentialities of gifted children True creativity, it is alleged, is not the exclusive property of the rare genius among us, but a tender bud that resides in some measure within every child, requiring only the gentle, catalytic influence of sensitive, imaginative teaching to coax it into glorious bloom. . . . it is totally unrealistic, in my opinion, to suppose that even the most ingenious kinds of teaching techniques that we could devise could stimulate creative accomplishment in children of average endowment.⁴⁸

Fred Schwartz was obviously sensitive to the above conflict when he expressed the opinion that a position that held skills and techniques to be fundamental is undoubtedly the more pragmatic and truthful one when practices in art education are considered, although it may not be completely defensible from a developmentalist viewpoint.⁴⁹ The nature of this investigation clearly indicates the researcher's concordance with Schwartz's view.

If one accepts the position that children should receive instruction for the purpose of changing their drawing ability, the question "which is the best method?" arises. Eisner reported that elementary and junior high schools have traditionally offered a wide

variety of materials and projects in the art program. This methodology has been adopted for the purposes of "richness, exposure, and curriculum diversity." Eisner argued that exposure to projects requiring different skills, provided in brief periods, is not likely to develop any skills to a high degree.⁵⁰

After examining studies relating to "depth" and "breadth" methods of instruction, R. C. Burkhardt arrived at the following viewpoint,

. . . we may conclude that the depth method of instruction is superior to the breadth method and that specific help is beneficial for both spontaneous and deliberate students⁵¹

The type of instruction described above by Eisner may be regarded as a "breadth" method while a "depth" approach requires prolonged periods of sequential instruction restricted to one specific area of study. (Studies relating to these methods are reviewed in the next section of this chapter.)

Once the method has been adopted another question arises. What is the art teacher trying to achieve for his students with drawing instruction? Most writers have suggested that the aim of drawing is "perceptual training," "increasing the student's awareness" or in some way sharpening the visual acuity of the student. A statement made by Irving Kaufman, although general, is related to drawing because of the nature of that activity:

Art education seeks to enrich the "seeing" aspects of perception primarily, though it is also involved with the total receptivity of the individual The experience during art lessons has to go beyond the simple act of looking It is not sufficient, for instance, to have a child look at a tree. The image has to be examined, its rough texture noted, its sporadically distributed light patterns acknowledged, its thrust upwards from the ground, the joining of the branches to the trunk, the spreading cover of foliage related to the underlying structure, the cylindrical mass fanning out into intricate linear patterns observed, and the whole organic interrelationship of parts heeded.⁵²

Guy Hubbard and Mary Rouse reflected a position similar to Kaufman in this statement:

By no means least in any education in the visual arts--if not to the development of human intellect in general--is the sense of sight. Seeing involves visual information of many kinds and while becoming more sensitive visually is not in itself an aesthetic process; visual aesthetic decisions are unlikely to have a chance of emerging unless the sense of sight is adequately developed.⁵³

Kenneth Lansing has also made a comment which parallels the above observation:

Intensive visual perception is important because it is through such activity that a person develops the mental images that are so necessary for the making of visual art. In other words it is through intensive perception that a person develops knowledge of the aesthetic dimension of experience.⁵⁴

Although the above three assertions are couched in general terms, Reid Hastie and Christian Schmidt have related the ideas of these authors to drawing by particularizing its role in developing perceptual ability:

Greater meaning is given to the perceptual experience if the individual attempts to objectify and translate this visual data into an objective form in some manner Of all the devices or techniques available to the artist or child for this purpose the preliminary sketch or drawing is most comprehensively used It is the means by which redundant information is filtered out, leaving only that which is important or critical in the mind of the observer.⁵⁵

The concept of redundant information being filtered during the drawing process is closely allied to Attenave's proposition mentioned earlier (that the major function of the perceptual is to eliminate redundancy in visual stimulation). This notion appears to constitute the basis from which most theorists work in determining methodology for drawing lessons.

Eisner talked about "managing visual constancies" because they often interfere with aesthetic perception.⁵⁶ Visual constancies,

visual generalizations, and perceptual stereotypes are all terms used in the literature that refer to the concept of redundancy in visual stimulation.

A second concept related to perceptual development is called "centration" by J. Piaget, and was noted by Eisner as being significant. It is the ability to perceive relationships of particular forms to complex fields of forms. Young children often do not possess this ability, Eisner claimed, and its development is crucial to the visual arts.⁵⁷

The strongest recommendation coming from the literature is that children be encouraged to draw from the environment or life. Guy Hubbard and Mary Rouse suggested that practice in attending to certain cues, such as how lines curve, how corners turn etc., may make a very significant difference in drawing behaviour.⁵⁸

A child's concept of space may be improved, Lansing suggested, by causing him to engage in selected and intensive perceptual movements. The teacher may do a number of things to involve his students in observing the world more carefully, but the best activity would be in drawing their environment. This conclusion by Lansing was prompted by his examination of the work of Piaget.⁵⁹

Lansing repeated this view in a later article concerning the work of Piaget and its implications for art education. In the later article, however, Lansing also stated that he felt there is no apparent virtue in a pictorial organization that imitates the spatial relationships found in nature. In fact, he observed, such organization has not been fashionable for quite some time.⁶⁰

Dale Harris, in a response to Lansing's paper, claimed that failure to acquire skill in realistic representation, when the child feels this desire, could impede later development of concepts used in the appreciation of more abstract aesthetic ideas.⁶¹

Another suggestion from Lansing was that if children are to develop accurate and complex concepts of their surroundings they should draw from the environment rather than from memory. Drawing from memory may result in slight distortion and subsequent drawings will probably become more distorted in the direction taken by the first effort.⁶²

Daniel Mendelowitz agreed with Lansing when he said,

Since memory suggests a somewhat passive recalling of visual impressions, it is generally agreed that it remains at best a supplement to actual seeing, and many artists who are primarily visual in their orientation feel that drawing from memory during the formative years of adolescence discourages the development of powerful, incisive skills and tends to encourage the regurgitation of artistic clichés.⁶³

Mendelowitz went on to say that if, during adolescence, habits of working both from memory and observation are developed then the range of expression is greatly strengthened.⁶⁴

Lowenfeld warned that "seeing" may become an inhibitory factor when forced on an individual who does not use visual experience for creative work.⁶⁵ No evidence has been found to support this claim, however.

Both McFee⁶⁶ and Eisner⁶⁷ have mentioned the importance of past experience and its contribution in producing a "frame of reference" or "mental set" which can profoundly affect what an individual makes of his visual experiences. Consequently, both these writers have stressed the necessity of allowing for such influence in the teaching situation.

The writers reviewed above have expressed thoughts which must necessarily be considered prior to the formation of a strategy for the teaching of drawing. However, these writers were vague with regard to the "how" of instruction. Helen Diemert⁶⁸ has made a practical suggestion related to drawing style. An approach which she called "feeling for form" when used with familiar subjects can achieve greater detail and variety in the drawings of upper elementary and junior high students:

This method consists in building a form by beginning with the interior mass rather than with the outline. The form is pushed out from central areas. It grows in size and shape until it appears convincing to the critical judgement of the maker. While the subject develops to its final form, the artist's attention is easily focussed on the whole shape rather than on each separate part.⁶⁹

Elizabeth Harrison suggested, for upper elementary and junior high schools, action drawings in which the student uses a broad drawing instrument and works very quickly. From this point attention should be directed to the still figure with emphasis upon relationship of basic shapes and analysis of detail.⁷⁰

Carl Reed also recommended that the student begin with interpretation of actions, gesture drawing from memory, and contour drawing also from memory.⁷¹ Reed's view, it will be recalled, is contrary to the opinion expressed by Lansing and Mendelowitz, as quoted earlier in this chapter.

From the foregoing, it may be concluded that many factors should be considered if the student's drawing ability is to be altered. First, improvement in drawing is probably not the result of ordinary maturation but rather it is produced by instruction. Second, the most effective type of instruction is thought to be a depth approach. Third, perceptual

training used in conjunction with drawing activity may improve student's drawing ability. Fourth, such perceptual training should be directed towards managing visual constancies and assisting the student to perceive the relationship of particular forms to complex fields of form. Fifth, drawing from the environment, or life, rather than from memory, is the most effective method of achieving the above aim. Sixth, a teacher should allow for perceptual differences between pupils, resulting from different experiential backgrounds. Finally, suggested methods of achieving these objectives are conflicting and vague.

EMPIRICAL STUDIES RELATING TO METHODS OF INDUCING CHANGE IN STUDENT DRAWING ABILITY

Many studies have supported the theory that drawing instruction can alter the drawing ability of students. Betty Lark-Horovitz, Hilda Lewis, and Marc Luca reported a study inducing improvement in figure drawing with boys of about ten years of age. The boys were given fourteen hours of instruction over a period of three months. Their drawings became more accurate in terms of limbs and positions of body parts, proportion and movement, and organization of the picture. Some of the boys progressed beyond their level of development into the next phase. The authors reported that the effect of instruction was easily observed, and, furthermore, the boys retained their individual style of drawing.⁷² A description of the method of instruction was not supplied.

The depth versus breadth controversy was examined by Kenneth Beittel and Edward Mattil in a study designed to discover which is the best method of instruction.⁷³ Grade nine subjects were taught according to both depth and breadth approaches over a period of one year. Criteria

for achievement were spontaneity and aesthetic quality of art work. Spontaneity was defined as being "freedom or ease in movement in the use of materials and rendering of forms" and aesthetic quality was rated by judges on a five-point scale. A breadth approach in teaching was defined as follows:

A teaching program in which a variety of well-chosen subjects and activities are dispersed in such a way as to accommodate differences in the interests and experiences of the pupils.⁷⁴

The depth approach was described as being:

A teaching program which allows a sustained long-term concentration in one specific area of study. There may be variety within this area but the different activities are such that they permit an easy transition from one problem to another. This approach stimulates both sequential and cumulative learning.⁷⁵

Students who worked in the depth program produced work judged to have a higher degree of spontaneity and aesthetic quality than students who worked in the breadth program.

Donald Davis undertook an investigation similar to that of Beittel and Mattil, but attempted to answer broader questions concerning creative thinking, art attitude, and aesthetic quality of art products. The population for Davis's study was drawn from beginning college art students. Davis concluded that there was no evidence within the limits of his data to support one teaching method to the exclusion of the other. In fact, the variables of instructor and time seemed to play roles equally significant to method and instruction.⁷⁶

Marvin Grossman conducted a study that was concerned with perceptual style and drawing ability.⁷⁷ He stated his hypothesis to be:

A particular way of examining and experiencing one's environment (an analytical orientation) would facilitate more accurate perceptions and as a result enable one to represent his perceptions more accurately in his drawings.⁷⁸

Grossman chose sixty kindergarten children as subjects. His examination was based on an intercorrelation matrix among the Children's Embedded Figures Test, the Draw a Clown Test, four factors of the Torrens Tests of Creative Thinking, and the Peabody Picture Vocabulary I.Q. Test for Statistically Significant Correlations. The results of this examination led him to conclude that representational drawing skills may be related to a child's perceptual orientation, and this explanation of drawing ability implies that art instruction should include strategies which help the child to observe his environment analytically.

Another study which was concerned with perceptual training was reported by Guy Hubbard and Mary Rouse.⁷⁹ These authors made the inference that practice in attending to significant cues may make a significant difference in drawing ability. They drew these conjectures from the results of research conducted by T. Trabasso.⁸⁰ Trabasso selected children who had performed badly on Piaget's conservation test, gave them practice in attending to cues (such as how corners turn, how lines curve, and so on) then re-tested them. They increased most significantly in ability to solve the problem. The inference that may be drawn from this result is that efficient perceptual performance may be more important in cognition than previously thought.

A study aimed at discovering if perceptual training presented in conjunction with drawing activity increases the visual information content of fifth grade children's drawings was carried out by R. A. Salome. Salome based his perceptual training technique upon the work of F. Attenave.⁸¹ Attenave maintained that the function of perceptual machinery is to eliminate redundancy. He also suggested that maximum

visual information is concentrated along the contours of objects, especially at points of change in direction and lines formed by abrupt colour changes.

Salome discovered that if children were encouraged to ignore areas of homogeneous colour and texture, and to search for visual information along the contours of objects, their ability to make realistic visual representations increased. Also, the content of detail that was included in drawings became more detailed and specific. Salome concluded that improved visual perception may not be a naturally occurring by-product of art activities but a specific objective for which one must teach.⁸²

Thomas Nelson and Merle Flannery conducted a study with younger children in order to discover which of several instructional methods would prove useful as a means of utilizing the drawing potential of six- and seven-year-olds.⁸³

Following various types of instruction, children's figure drawings were evaluated according to six response criteria. The researchers discovered that skill in reproducing a simple figure can be improved within the limits set by maturation. Not all types of instruction were found to be of equal benefit. Instruction which emphasized attention to area properties (shape perception) achieved better results than instruction which directed attention to border properties (edge perception).

Ronald Neperud attempted to discover the effect of three different instructional methods on the drawing ability of grade five students. The three types of instruction used were teacher-centred,

co-operative, and child-centred. Only under the teacher-centred method was drawing development apparent over an eleven-week period. Neperud's conclusion was that there are aspects of art that can be learned and there is a place for direct teacher participation in encouraging drawing development.⁸⁴

Elliot Eisner commented on research which has been conducted in teaching the visual arts. He criticized this research suggesting that experimental treatments are generally extremely brief in duration, making the possibility of significant results unlikely unless powerful treatments are employed or sensitive instruments used. Neither contingency is characteristic of educational research today. Another important criticism made by Eisner was that most researchers tend to skimp on the amount of descriptive material providing details of the treatment employed in the experiment. Consequently, teachers wishing to use research find considerable difficulty in effectively analysing what was actually done.⁸⁵

The above research illustrated quite clearly that the drawing ability of children can be improved with teacher direction. A depth method may be preferable to a breadth method, although Davis' study indicates that further research is warranted on this question. Perceptual training of some sort, whether it is directing attention to significant cues or searching contours for visual information, seems to be most effective.

SUMMARY

In this chapter an attempt was made to examine all the relevant available literature containing research covering adolescent's drawing

skills and his satisfactions and preferences in drawing. Also examined were methods of increasing the drawing abilities of students.

Without exception writers in art education identified adolescence as a critical period in the aesthetic development of an individual. The adolescent characteristically possesses poor drawing skill that does not match his standards of self-imposed realism (in drawing). Consequently he becomes dissatisfied and frustrated with the results of his work.

The human figure is most commonly preferred as a drawing subject, while the preferred style of drawing is somewhat more realistic than that which the student can produce. The consensus of the authors reviewed was that if the adolescent did not experience some satisfaction with the results of his drawing efforts he would likely abandon the mode. Skill development in art education was recommended. Increased ability, it was thought, is necessary during this period in order that expressive needs may be met and satisfaction felt.

Empirical studies demonstrated that drawing abilities of the student could be developed through instruction. Perceptual training undertaken in conjunction with drawing activity seems to produce significant changes in drawing ability. Such perceptual training should be directed towards managing visual constancies and attending to particular aspects of forms in order to gain maximum and selective visual information. The implication of these recommendations, of course, is that the student should draw from the environment or life rather than from memory.

FOOTNOTES TO CHAPTER II

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²³Eisner, op. cit., p. 123.

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²⁵Mendelowitz, op. cit., p. 116.

²⁶Betty Lark-Horovitz, Hilda P. Lewis, and Marc Luca, Understanding Children's Art for Better Teaching (Columbus, Ohio: Charles E. Merrill Books Inc., 1967), p. 167.

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²⁸Eisner, op. cit., p. 118.

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³⁴Michael, "Art Experience" op. cit., p. 88.

³⁵Dale B. Harris, Children's Drawings as Measures of Intellectual Maturity (New York: Harcourt, Brace and World, 1963), p. 13.

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⁴²Marguerite Lienard, "What is the Relationship of Children's Satisfaction with Their Art Products to Improvement in Art?" Studies in Art Education, 3, 1 (Fall, 1961), 55-66.

⁴³Eisner, op. cit., p. 66.

⁴⁴June King McFee, Preparation for Art (Belmont: Wadsworth Publishing Co., 1961), p. 44.

⁴⁵R. A. Salome, "The Effects of Perceptual Training Upon the Two-Dimensional Drawings of Children," Studies in Art Education, 7, 1 (Autumn, 1965), 20.

⁴⁶F. Attenave, "Some Informational Aspects of Visual Perception," Psychological Review, 61, 3 (1954), 183-93.

⁴⁷Laura Zirbes, Spurs to Creative Teaching (New York: G. P. Putnam's Sons, 1959), pp. 261-63.

⁴⁸David P. Ausubel, The Psychology of Meaningful Verbal Learning (New York: Grune and Stratton Inc., 1963), pp. 102-03.

⁴⁹Fred R. Schwartz, Structure and Potential in Art Education (Waltham, Massachusetts: Ginn-Blaisdell, 1970), p. 158.

⁵⁰Eisner, op. cit., p. 194.

⁵¹Robert C. Burkhardt, Spontaneous and Deliberate Ways of Learning (Scranton, Pennsylvania: International Textbook Co., 1962), p. 167.

⁵²Irving Kaufman, Art and Education in Contemporary Culture (New York: Macmillan Company, 1966), pp. 197-98.

⁵³Guy Hubbard and Mary Rouse, "Structured Curriculum in Art for the Classroom Teacher: Giving Order to Disorder," Studies in Art Education, II, 2 (Winter, 1970), 20-21.

⁵⁴Lansing, op. cit., p. 328.

⁵⁵Reid Hastie and Christian Schmidt, Encounter With Art (New York: McGraw-Hill, 1969), p. 100.

⁵⁶Eisner, op. cit., p. 68.

⁵⁷Ibid., p. 70.

⁵⁸Hubbard and Rouse, op. cit., p. 16.

⁵⁹Lansing, op. cit., p. 227.

⁶⁰Kenneth Lansing, "The Research of Jean Piaget and its Implications for Art Education in the Elementary School," Studies in Art Education, 7, 2 (Spring, 1966), 41.

⁶¹Harris, "Comments" op. cit., p. 44.

⁶²Lansing, "Art" op. cit., p. 228.

⁶³Mendelowitz, op. cit., pp. 116-18.

⁶⁴Ibid.

⁶⁵Lowenfeld, op. cit., p. 232.

⁶⁶McFee, op. cit., pp. 152-53.

⁶⁷Eisner, op. cit., p. 71.

⁶⁸Diemert, op. cit., pp. 9-10.

⁶⁹Ibid.

⁷⁰Harrison, op. cit., pp. 52-60.

⁷¹Reed, op. cit., p. 95.

⁷²Horovitz, Lewis and Luca, op. cit., p. 110.

⁷³Kenneth Beittel and Edward Mattil, "The Effect of a Depth versus Breadth Method of Art Instruction at the Ninth-Grade Level," Studies in Art Education, 3, 1 (Fall, 1961), 75-87.

⁷⁴Ibid., p. 75.

⁷⁵Ibid.

⁷⁶Donald J. Davis, "The Effect of Depth and Breadth Methods of Art Instruction upon Creative Thinking, Art Attitudes and Aesthetic Quality of Art Products in Beginning College Art Students," Studies in Art Education, 10, 2 (Winter, 1969), 27-39.

⁷⁷Marvin Grossman, "Perceptual Style, Creativity and Various Drawing Abilities," Studies in Art Education, II, 2 (Winter, 1970), 51-53.

⁷⁸Ibid., p. 53.

⁷⁹Hubbard and Rouse, op. cit., p. 16.

⁸⁰T. Trabasso, "Pay Attention," Psychology Today, 2, 5 (October, 1968), 30-36.

⁸¹Attenave, loc. cit.

⁸²Salome, loc. cit.

⁸³Thomas M. Nelson and Merle E. Flannery, "Instruction in Drawing Techniques as a Means of Utilizing Drawing Potential of Six and Seven-Year-Olds," Studies in Art Education, 8, 2 (Spring, 1967), 58-84.

⁸⁴Ronald Neperud, "An Experimental Study of Visual Elements, Selected Art Instruction Methods and Drawing Development at the Fifth-Grade Level," Studies in Art Education, 7, 2 (Spring, 1966), 3-13.

⁸⁵Elliot Eisner, "Research on Teaching the Visual Arts," Second Handbook of Research on Teaching, ed. Robert M. W. Travers (Chicago: Rand McNally and Company, 1973), pp. 1196-1209.

CHAPTER III

DESIGN OF THE STUDY

Three questions were investigated in this study.

1. Does a change in the ability of grade seven students to draw accurately from a model occur after a series of directed observation lessons in figure drawing?
2. Does a change in the satisfaction of grade seven students with their drawing occur after a series of directed observation lessons in figure drawing?
3. Does a relationship exist between the variables of satisfaction and ability?

One null hypothesis was formulated from these questions.

H₀: There will be no significant differences between the experimental and control groups on the dependent variables satisfaction and the five dimensions of ability, "presence of major body shapes," "proportion," "presence of detail," "skillful representation of detail," and "functional appearance" when considered simultaneously.

In order to test this hypothesis, a pre-test post-test with control group design was selected, in which equivalent groups were achieved by randomization.

SUBJECTS

The ages of subjects used in the study ranged from twelve to thirteen years eight months. According to the literature, students of this age have reached, or are approaching, the peak of their schemata in

drawing and have begun to experience frustration and dissatisfaction with their efforts. Considerable empirical and theoretical evidence illuminates the critical nature of this age in the aesthetic and conceptual development of the child.

Random sampling procedures were used to select two grade seven art classrooms. One class was selected from each of two different schools within the Calgary public school system. The classes were randomly assigned as experimental and control groups. A total of fifty-two subjects participated in the study, twenty-four in the experimental group and twenty-eight in the control group.

Two students from the control group were not included in the results as they were not present for the post-test. No other students were eliminated, although it was thought that those with serious eyesight or motor control problems, or individuals with at least one year of art instruction within the previous three years, could have influenced the results. Checks were made for these factors by:

1. examination of pupil records;
2. examination of a written statement from the sample groups regarding previous art experience. The form used to collect this information is reproduced in Appendix A.

MATERIALS

Three categories of materials were used: drawing materials, drawing stimuli, and evaluative instruments.

Drawing Materials

1. 3B drawing pencils

2. erasers
3. 18 inch by 24 inch drawing paper

Drawing Stimuli

The human figure was chosen as a subject for observation because of the adolescent's commonly expressed interest in it. Models used were students not participating in the study.

Evaluative Instruments

The necessary data required for this study consisted of twelve sets of scores representing measurements of the variables of satisfaction and five dimensions of ability from before and after the treatments. A satisfaction/dissatisfaction scale was used to obtain an estimation of each producer's feeling of satisfaction with a drawing made from a standing figure. Each subject recorded a satisfaction score on the back of the completed drawing.

A panel of five expert judges used an instrument developed by the researcher to evaluate the accuracy with which these drawings were made. Each student produced one drawing on both occasions (pre-test and post-test).

Development of the Drawing Accuracy Test

1. A definition was established to state as clearly as possible the criteria for accurate drawing in accordance with the intent of this thesis. (See definition of terms p. 6.)
2. An evaluation guide comprising five criteria was developed. These criteria focussed upon the most significant characteristics of

accurate drawing implied by the definition. The evaluation guide is reproduced in Appendix B.

3. Photographs of models used for the study were taken during the pre- and post-tests. Each model was photographed from either side of the classroom and from the centre. These photographs were subsequently mounted and coded so that they could be used by the judges as guides for assessing the drawings.

4. Examples of drawings representing the best and poorest extremes relating to the established definitions were collected from a junior high school and displayed as criterion references for the judges. These drawings were used by the judges as "anchor points" in their evaluations if they required such references.

5. Each of the five criteria was allotted a seven-point marking scale. On this basis the total number of points a drawing could be allocated was thirty-five while the minimum number it could score was five. A score sheet was developed to facilitate this type of scoring (see Appendix C).

Assessment was carried out by five judges who were considered to be experts. Judges were selected on the following basis: (a) Must have attained either a B.Ed., B.A., M.A., M.Ed., Ph.D., or D.Ed., with a major in art or art education. (b) Must have taught for at least one year at the junior high school level.

Satisfaction/Dissatisfaction Scale

This scale was developed by Marguerite Lienard¹ for the purpose of measuring satisfaction with art work of grade seven and eight pupils. The scale was used in a doctoral study that attempted to establish the

relationship of satisfaction to improvement in art.² Lienard found that the scale was the most practical way of measuring the amount of satisfaction or dissatisfaction a finished art product gave its producer.

Lienard's scale is as follows:

1. It is terrible. I despise it.
2. It is very bad.
3. It is bad.
4. It is not very good.
5. It is a toss-up. I neither like it nor dislike it.
6. It is a little better than a toss-up.
7. It is fairly good. I am getting better.
8. It is good. I like it.
9. It is very good. I like it a lot.
10. It is tops. It is exciting. I love it.

Two slight changes were made in the scale. In order that an equal number of satisfaction and dissatisfaction choices could exist on either side of the neutral position (no. 5), the tenth item of the scale was dropped. The ninth item, as it is, does not match the first in emotive strength, so the words "very good" were dropped and "excellent" substituted. The amended scale is shown in Appendix D.

FACTORS CONTROLLED

Apart from those factors outlined by D. T. Campbell and J. C. Stanley, which are controlled by the nature of the design, other factors, such as instructor and biasing effects were not.³ The following steps were taken to manage these variables.

The teaching function was limited to one experienced teacher (the researcher). The researcher has been involved in art education for nine years, including two years at the elementary level, one year at the junior high level, three years at the combined junior/senior high level, and three years as an art consultant.

In order to obtain valid measures of student satisfaction, the instructor did not give any indication of his opinion of student work. The instructor also asked the groups to co-operate in not commenting upon the work of their peers. External influence of this nature could affect the student's ability to form an unbiased opinion relating to his feeling of satisfaction or dissatisfaction.

A check sheet pertaining to observed instructor behaviour during the treatments was completed by a qualified observer (a trained teacher who had taught for at least one year in Canada) unaware of the identity of the groups observed. The check sheet contained some items related to procedures which should have occurred only in the experimental group, some items relating to procedures which should have occurred only in the control group, and some items relating to procedures which should not have occurred in either group. If the observer checked items other than those relating to the group under instruction during any session, biasing would have occurred.

Following are the components of the observer's check list grouped according to their purpose. The first group of items includes activities which were intended to be unique to the experimental group.

1. The teacher constantly directed students' attention to visual relationships existing in the model.

2. Methods of examining basic shape relationships were demonstrated.

3. Methods of relating detail to basic shapes were demonstrated.

4. Teacher-pupil discussions of characteristics of the model occurred.

5. The teacher constantly questioned the students about the visual relationships of the model.

6. Questions such as "how do you draw a foot?" etc., were answered by verbal explanation and demonstration.

The second set of items was intended to be unique to the control group:

1. The teacher constantly emphasized the idea that the student's effort should be directed towards satisfying his own standards in drawing.

2. The drawing stimulus was changed at least three times during the lesson.

3. Attention of the students was directed to the model as a whole, rather than as a relationship of parts.

4. Emphasis was placed upon students solving the drawing problem rather than teacher-student discussion of the problem.

5. Questions such as "how do you draw a foot?" etc., were answered by demonstration on the chalkboard without specific instruction.

If any of the above activities occurred when they should not, the resultant biasing would lessen the effect of treatments. The following list of items relates to factors which could have biased the satisfaction responses of either group, and therefore such activities should

not have occurred at all during the experiment.

1. The teacher praised the work of the class unnecessarily or excessively.
2. The teacher condemned the work of the class.
3. The teacher praised the work of individuals unnecessarily or excessively.
4. The teacher condemned the work of individuals.
5. The teacher made unnecessary gestures which could have been interpreted by the class as praise.
6. The teacher made gestures which could have been interpreted by the class as condemnation.
7. Drawing tasks set by the teacher left the class largely unoccupied.
8. Constraints placed upon the class were excessively restrictive.
9. The teacher used sarcasm in referring to students.
10. The teacher constantly displayed irritability, impatience, or disinterest.
11. The teacher consistently ignored students' requests for help.

The above items were randomly scattered in the final form of the check sheet (see Appendix E).

Boredom was thought to be another biasing factor which could have arisen through strict adherence to experimental procedure. If such procedure was followed, all variables in the control group should have been exactly the same as those in the experimental group, except for the experimental variable. The experimental variable in this study was the employment of perceptual training techniques, in conjunction with

drawing activities, for the purpose of developing through sequential lessons a drawing strategy that may assist the child to render representational drawings.

In the control group, boredom and dissatisfaction would likely result from four hours of drawing the poses used with the experimental group. This prediction was based on the assumption that interest would be maintained longer in the experimental group because of the stimulation provided through the discovery of new visual information and methods of representing it. Consequently, in an attempt to increase external validity, the lessons for the control group were designed in a "wholistic" rather than a sequential manner in order to include greater variety of activity in figure drawing. This action was intended to ensure that the interest level of both groups remained approximately the same.

PROCEDURE

The experiment took place over a three-week period during which time each group received four hours of instruction. Timetabling of art lessons varied in the two schools. The experimental group received two sixty-seven-minute sessions per week, while the control group was allocated one forty-minute lesson and one eighty-minute period each week. In order to equalize total time spent in instruction, the final session with the experimental group was shortened by fifteen minutes. The instructor met both groups a total of five times (including pre- and post-testing sessions).

After the pre-test and initial treatment the observer was present

at each treatment session for both groups. During these sessions the observer checked those items that were applicable on the check sheet.

Pre-test

The pre-test was administered at the first meeting with both groups. A model was positioned at the front of the room in such a way that a front, or almost front, view of the standing figure was presented to each member of the class. Students were requested to make a drawing of the complete figure. No assistance was given and no time limit imposed. All students finished within forty minutes.

Upon completion of the drawing, subjects were made familiar with the satisfaction/dissatisfaction scale through discussion of the items which were written on the chalkboard. Once the instructor was satisfied that the students understood the nature of the scale, each individual recorded, on the back of the drawing, the response that best expressed his feeling of satisfaction or dissatisfaction produced by the drawing. Students were co-operative in not commenting on the work of their peers. In the absence of such comments by the teacher and other students, it was interesting to note that several individuals experienced difficulty in making up their own minds about how satisfied they were and constantly attempted to extract an opinion from the teacher about the quality of the drawing.

Treatments

Both groups received treatments for four hours. The treatments were parallel only in that both groups worked from the model. In the literature, mention was made of the concept of depth and breadth methods

of instruction.⁴ The difference in treatments here could be viewed in this fashion, with the experimental group receiving the depth method of instruction. Because the problems in this group were ordered in a sequential manner, such that each new experience built on and was determined by the preceding one, the method of instruction could be regarded as a depth approach.

Although the human figure was used as a stimulus on each occasion in the control group, no sequential progression of experiences occurred. Rather a variety of poses and diverse methods of drawing the figure were explored. Hence this approach could be regarded as a breadth method. Such procedure was chosen for the control group because junior high school teachers characteristically offer this type of program to students.⁵

Experimental-Group Treatments

Once children reach the stage in their aesthetic development that is characterized by a struggle for realism, certain teaching procedures can assist this endeavour. Pointed out in the literature review was the fact that a study by Salome⁶ (based on the work of Attenave⁷) showed how perceptual training used in conjunction with drawing activity could increase the ability of grade five pupils to make realistic representations. This improvement was achieved through directing children's attention to contours which contain maximum visual information about the forms contained by them. This procedure resulted in increased detail content in these children's drawings. Hubbard and Rouse⁸ suggested (after studying the work of Trabasso⁹) that "attention to certain cues" would improve perceptive behaviour, supporting, in theory, Salome's work.

Such effort in directing attention to increased content of detail in drawing reflects a typical misconception of the young adolescent. He feels that the route toward more realistic drawing is through painstaking effort to record every detail. In fact, it is preoccupation with detail that leads him to neglect the major shape relationships, and the relationships of these laboriously drawn details to each other. Detail, of course, is important and the most exciting part of drawing for the child. However, the treatments employed with this group were directed towards working, at first, from the largest and most significant relationships (height-width, figure-page, basic shapes to each other) to the smallest (details to basic shapes, details to each other) in that order.

So that the importance of this procedure was made clear to the students, the first carefully considered representation of the basic shapes comprising a standing figure was drawn heavily by the students on an 18 inch by 24 inch piece of drawing paper. A second piece of thin drawing paper was placed over the first so that the basic drawing could be seen through the top sheet. The attention of students was then drawn to the way in which the contours of the figure described and modified the major shapes underneath. Also student attention was drawn to the relationships of details to each other. Students then attempted to draw, on the top sheet, the contours and details in correct relationship to the basic shapes beneath. This activity continued until the student was satisfied with the completed figure.

In subsequent drawings students made a light sketch of the basic shape relationships displayed by the model, then worked with increasing pressure to represent detail. In this way students began systematically

to build drawings by isolating problems. They worked from large relationships to smaller ones, rather than attempting to resolve all complexities simultaneously. A detailed transcript of relevant instructions and questions relating to the first drawing attempted by the experimental group is presented in Appendix F.

To facilitate greater freedom of pencil strokes, the instructor made the students aware of the carry-over of writing habits to drawing. The fact that many people are afraid to correct a form once it is drawn was seen by the subjects as being the effect of conditioning developed through years of writing activity. Students were encouraged to "feel" for the desired form by drawing repeatedly with light strokes over the initial undesirable shape.

Following is a detailed description of drawing tasks undertaken by the experimental group, together with statements of objectives and a summary of methodology.

Drawing One: (Standing
Figure, Front View)

Objective. Students were to record the shapes of the major body parts in correct proportion and relationship to each other.

Method. The instructor called the attention of the students to the following:

1. The relative shapes of the head, body, arms, legs, hands, and feet. The chalkboard was used for the purpose of demonstration.
2. The position of the above shapes in relation to the page and to each other.

3. The manner in which the arms, legs, and head were attached to the body.

4. The manner in which the hands and feet were attached to the arms and legs.

The instructor emphasized to the class the difference between a formula and a strategy for drawing. Emphasis was upon development of a strategy for observation not a formula for drawing the figure.

Drawing Two: (Standing Figure,
Front View--Same Model as for
Drawing One)

Objective. Students were to record the shapes and characteristics of details (hands, feet, eyes, nose, mouth, hair, ears, neck, clothing) in correct relationship to the major body parts and to each other.

Method. A sheet of thin drawing paper was placed over the previous drawing of basic shapes. The detailed figure was then drawn on the top sheet, using the underneath drawing as a guide.

The instructor called the attention of the students to the following:

1. Analysis of clothing folds as a pattern of line (contour) and their relationship to the major body shapes.

2. The shapes of individual details such as eyes, nose, hair, mouth, fingers, and so on.

3. The relationship of these details to each other.

Drawing Three: (Standing
Figure, Side View)

Objective. Same as for Drawings One and Two, with a difference in

viewpoint such that the model was observed from the side.

Method. The instructor called the attention of the students to the following points:

1. The difference in head shapes of side and front views.
2. The difference in body shapes of side and front views.
3. The comparison of relative proportions of the figure from side and front views.
4. The manner in which the closer arm overlapped the body.
5. The manner in which the further arm was overlapped by the body.
6. The manner in which the further leg was overlapped by the closer leg.
7. The difference in foot shapes viewed from front and side.

Drawing Four: (Standing Figure,
Three-quarter View)

Objective. Same as for Drawings One and Two with a difference such that the model was viewed from the three-quarter view.

Method. The instructor reviewed the points covered in the previous lessons. Attention of the students was directed to the subtle differences between front and three-quarter views, and side and three-quarter views.

Control-Group Treatments

The control group did not receive any perceptual training or instruction dealing with the relationships of the body parts. The major

requirement of the control group was to draw from the model images that were satisfactory to themselves. The instructor did not assist the students in the formation of a drawing strategy. The instructor dealt with requests for help in drawing by demonstrating on the chalkboard. No verbal explanation of the drawing strategy employed was given.

The primary objective of the lesson series for the control group was for students to draw, using a number of different approaches, from a variety of models, posed in numerous attitudes. Following is the series of lesson objectives and methods, used with the control group, that reflect this primary objective.

Lesson One

Objective. The students were to attempt to make a number of drawings of a model standing and sitting in various positions, such that the resulting drawings would be judged by the students as being satisfactory.

Method. The model was instructed to change positions after time periods varying from five to twenty minutes. Students were informed of the time allowed for completion of each drawing.

Lesson Two

Objective. The students were to attempt to make drawings of details such as hands, feet, eyes, mouth, nose, ears, and so on such that the resulting images would be judged by the students as being satisfactory.

Method. Students used each other as models for detail drawing.

Lesson Three

Objective. The students were to make a number of drawings of a model from more than one viewpoint, such that the resulting drawings would be judged by the students as being satisfactory.

Method. Students arranged themselves around the model so each of them had a slightly different viewpoint. Upon completion of the first drawing they were encouraged to change their viewpoint.

Lesson Four

Objective. The students were to draw figures in action such that the resulting drawings would be judged by the students as being satisfactory.

Method. Students observed constantly moving models, selected the action poses required, and drew while the model moved.

Lesson Five

Objective. The students were to draw several models clad in fancy costume such that the resultant drawings would be judged by the students as being satisfactory.

Method. Models clad in costume were changed at approximately fifteen-minute intervals.

Lesson Six

Objective. The students were to draw several models using a "gesture" drawing technique such that the resultant drawings would be judged by the students as being satisfactory.

Method. Models selected were changed each two to three minutes. Poses employed were judged by the instructor as being suitable for gesture drawing.

Post-test

The post-tests were administered at the last meeting with each group. The method of administration of the post-tests was exactly the same as for the pre-tests.

DATA COLLECTION

Pre- and post-test drawings from both groups were given a code indicating: 1. Group (experimental or control), 2. Position within group, 3. Test (pre- or post-). These coded drawings were then allocated random numbers between one and one hundred (without replacement). Finally the drawings were arranged in order of the random numbers.

The judges, upon completing evaluation of a drawing, recorded scores against the number of that drawing on the score sheet. This procedure was followed in order that judges were not influenced in their evaluation by knowledge of the drawing's group membership.

Ability scores were then computed by calculation of a weighted average across all the judges' evaluations for each of the five criteria on every drawing. Totals for each drawing were obtained by adding the

weighted averages. An inter-judge reliability rating was computed on the five totals for each drawing. A Pearson Product-Moment correlation matrix was used for this computation.

Satisfaction scores were obtained from the students' responses on the back of each drawing.

The method used to analyse the variables, satisfaction, and five dimensions of ability, was multivariate analysis of covariance.

SUMMARY

A pre-test post-test, with control group, design was selected to test the hypothesis that there would be no significant differences between the experimental and control groups on the dependent variables, satisfaction and five dimensions of drawing ability, following a series of directed observation lessons in figure drawing. Random sampling procedures were used to select two grade seven art classes, from the Calgary public school system, to serve as experimental and control groups.

Satisfaction scores were obtained through the use of a satisfaction/dissatisfaction scale. Ability scores were estimated by a panel of five expert judges using an evaluation guide containing five criteria for realistic drawing.

Treatments in the experimental group included attention to major body shape relationships followed by perceptual training techniques. The approach utilized sequential ordering of drawing problems in order to engender perceptual development and growth of a drawing strategy.

Control group treatments were typical of drawing instruction

offered students in junior high schools.

To indicate possible biasing effects due to instruction, a check sheet containing twenty-two instructor behaviours was completed by a qualified observer.

FOOTNOTES TO CHAPTER III

¹Marguerite Lienard, "What is the Relationship of Children's Satisfaction with Their Art Products to Improvement in Art," Studies in Art Education, 3, 1 (Fall, 1961), 55-66.

²Ibid.

³Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally and Company, 1967), pp. 13-16.

⁴Kenneth Beittel and Edward Mattil, "The Effect of a Depth Versus Breadth Method of Art Instruction at the Ninth Grade Level," Studies in Art Education, 3, 1 (Fall, 1961), 75-87; Elliot W. Eisner, Educating Artistic Vision (New York: The Macmillan Company, 1972), p. 194; Robert C. Burkhardt, Spontaneous and Deliberate Ways of Learning (Scranton, Pennsylvania: International Textbook Co., 1962), p. 167; Donald J. Davis, "The Effect of Depth and Breadth Methods of Art Instruction upon Creative Thinking, Art Attitudes and Aesthetic Quality of Art Products in Beginning College Art Students," Studies in Art Education, 10, 2 (Winter, 1969), 27-39.

⁵Eisner, op. cit., p. 194.

⁶Richard A. Salome, "The Effects of Perceptual Training Upon the Two-Dimensional Drawings of Children," Studies in Art Education, 7, 1 (Autumn, 1965), 18-33.

⁷F. Attenave, "Some Informational Aspects of Visual Perception," Psychological Review, 61, 3 (1954), 183-93.

⁸Guy Hubbard and Mary Rouse, "Structured Curriculum in Art for the Classroom Teacher: Giving Order to Disorder," Studies in Art Education, II, 2 (Winter, 1970), 16.

⁹T. Trabasso, "Pay Attention," Psychology Today, 2, 5 (October, 1968), 30-36.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The purpose of this investigation was to discover if grade seven students' drawing ability, and satisfaction with drawing, could be altered through instruction. Two groups were randomly selected to serve as the control and experimental groups. The experimental group received a series of sequential lessons in figure drawing that employed examination of basic shape relationships and perceptual training techniques. The control group received a series of "non-sequential" lessons in which a large variety of figure drawing activities were undertaken, none of which were designed to assist in the development of a particular drawing strategy. Observed differences effected by the treatments are reported in this chapter.

Descriptive Data

The data for this study consisted of measures taken on six covariates and six dependent variables. These were satisfaction and five dimensions of drawing ability collected from both groups before and after treatments.

The dimensions of drawing ability were defined by five criteria which are outlined in Appendix B.

Table I shows cell means and standard deviations for both treatment groups on the pre- and post-tests.

Table I
Observed Cell Means and Standard Deviations

		Cr. A *	Cr. B *	Cr. C *	Cr. D *	Cr. E *	Sat. *
Expt.	$\bar{X}$	4.36	2.57	3.96	2.74	3.11	6.12
Group	s	2.05	1.23	1.46	1.41	1.73	1.96
Cont.	$\bar{X}$	6.18	3.26	5.22	2.88	3.29	5.50
Group	s	1.28	1.12	1.11	1.41	1.47	1.88
		Cr. A [†]	Cr. B [†]	Cr. C [†]	Cr. D [†]	Cr. E [†]	Sat. [†]
Expt.	$\bar{X}$	6.58	4.73	5.73	4.22	4.76	7.33
Group	s	.42	.82	.81	1.39	1.28	1.74
Cont.	$\bar{X}$	6.58	3.64	5.51	2.72	3.51	5.00
Group	s	.80	.79	.66	.86	1.03	2.12

Cr. = Criterion

Sat. = Satisfaction

* Pre-test

[†] Post-test

A Pearson Product-Moment correlation matrix of the variables, including covariates, is presented in Table II. Significant correlations ($p < .05$) were found to exist between the individual criteria of drawing ability on the pre- and post-tests (except for the correlation between criterion A and criterion B on the post-test).

As satisfaction was significantly correlated with some dimensions of drawing ability (criterion C, criterion D, and criterion E), over all subjects, in the pre-test but not in the post-test, further correlations were carried out. Table III reveals that correlations between drawing ability total scores and satisfaction are significant at the .05 level (two-tailed test) for the control group on the post-test and the control and experimental groups combined on the post-test. Although not statistically significant, the correlations between satisfaction and ability (total score) in the experimental group changed from positive to negative after the treatments.

STATEMENT OF HYPOTHESIS

Satisfaction and five dimensions of ability were considered simultaneously to determine the effect of instruction. The null hypothesis stated, therefore, that there would be no significant differences between the experimental and control groups on all variables considered simultaneously.

H₀: There will be no significant differences between the experimental and control groups on the dependent variables satisfaction and the five dimensions of ability, "presence of major body shapes," "proportion," "presence of detail," "skillful representation of detail," and "functional appearance" when considered simultaneously.

Table II

Correlation Matrix with Covariates Included

	Cr. A*	Cr. B*	Cr. C*	Cr. D*	Cr. E*	Sat.*	Cr. A†	Cr. B†	Cr. C†	Cr. D†	Cr. E†	Sat.†
Cr. A*	1.0000											
Cr. B*	.6505	1.0000										
Cr. C*	.8202	.7447	1.0000									
Cr. D*	.4731	.7864	.7419	1.0000								
Cr. E*	.6046	.8417	.7620	.9072	1.0000							
Sat.*	.0462	.2464	.2989	.3892	.2864	1.0000						
Cr. A†	-.0942	.0442	.1057	.1333	-.0217	.1991	1.0000					
Cr. B†	-.0414	.3512	.0540	.2548	.2923	.0281	.2153	1.0000				
Cr. C†	-.1223	-.0343	.1688	.1310	-.0111	.2240	.7606	.3274	1.0000			
Cr. D†	-.1725	.2976	.1194	.4517	.3782	.3659	.3045	.5512	.5294	1.0000		
Cr. E†	-.0587	.3837	.1693	.4504	.4386	.3681	.3385	.7502	.4445	.8021	1.0000	
Sat.†	.0147	.0066	.1238	.0950	.0419	.5077	.0885	-.1680	.0835	.1488	.0474	1.0000

Cr. = Criterion

Sat. = Satisfaction

* Pre-test

† Post-test

N = 50

Table III

Correlations: Ability Total Scores with Satisfaction

	Experimental Group N=24	Control Group N=26	All Subjects N=50
Pre-test	.3067	.3549	.2419
Post-test	-.3088	.4588*	.3018*

*Significant at .05 level (two-tailed test)

DECISION RULES

As the .05 significance level was selected for this study, differences were considered significant only if they were equal to or less than this probability (p) value.

STATISTICAL TEST OF HYPOTHESIS

A multivariate analysis of covariance was used to analyse the data. Measures taken on the variables satisfaction and the five dimensions of drawing ability, "presence of major body shapes," "proportion," "presence of detail," "skillful representation of detail," and "functional appearance," in the pre-test, were used as covariates. Dependent variables consisted of measures taken on the same variables in the post-test. Table IV presents a summary of the analysis of the multivariate criteria.

The multivariate F-ratio test revealed group differences existed on one or more of the dependent variables considered simultaneously ($p < .002$). A study of the treatment conditions was carried out in relation to each of the variables using the univariate F-ratio test and step-down F-ratio test. The former indicates treatment effects on a criterion variable independent of all other variables. Consideration of the probability values associated with the results of six univariate tests in this situation is inappropriate as the variables are not independent. The step-down F-ratio test, however, reveals the difference in treatment effects on a criterion variable after the effects upon the preceding variables have been partialled out.

An inspection of the step-down F-ratio results in Table IV shows

Table IV
Summary of Analysis of Multivariate Criteria*

Variable	Hypothesis mean square	Univariate F	P<	Step- down F	P<
Cr. A	.0559	.1454	.7049	.1454	.7049
Cr. B	6.6841	12.4964	.0011	12.3979	.0011 [†]
Cr. C	.7970	1.8479	.1813	.0166	.8981
Cr. D	6.0847	7.4659	.0092	2.1474	.1509
Cr. E	4.1596	4.6846	.0362	1.6233	.2104
Sat.	32.6195	10.6409	.0023	6.8305	.0129 [†]

* F Ratio for Multivariate Test of Equality of Mean Vectors
F=4.3407, Degrees of Freedom 6 and 37, $p < .0021$
Degrees of Freedom for Hypothesis 1
Degrees of Freedom for Error 42

[†] Significant at the .01 level

that the groups differed on two of the six variables, namely, criterion B ($p < .0011$) and satisfaction ($p < .0129$). On the basis of the above information the null hypothesis was rejected.

A study of the table of least-squares estimates of effects, with covariates removed (Table V), indicates that the experimental group performed significantly better than the control group on both criterion B and satisfaction in the post-test. The least squares estimate for the control group, in this instance, was held constant at zero as the experimental group was compared to the control group. The least-squares estimates, therefore, show that the experimental group performed best on criterion B and satisfaction, being almost one point higher than the control group on criterion B (.9423) and over two points higher on satisfaction (2.0816).

JUDGE AGREEMENT

To determine agreement among judges in their ratings a Pearson Product-Moment correlation matrix was computed, using the totals of all criteria for each drawing. Table VI indicates all correlations are in excess of the .001 level of significance (two-tailed test), revealing that the judges held similar perspectives.

OBSERVER'S CHECK SHEET

To measure possible effects of instructor biasing during the treatments a qualified observer recorded teacher behaviour on a check sheet containing twenty-two items (see Appendix E). The observer was unaware which was the experimental group and which was the control.

Table V

Least-squares Estimates Adjusted for Covariates
Experimental versus Control

	Cr. A	Cr. B	Cr. C	Cr. D	Cr. E	Sat.
Grand Mean	6.1825	4.4066	5.0776	3.2260	3.5170	3.0402
L.S.E.	.0861	.9423	.3253	.8990	.7433	2.0816

Cr. = Criterion

Sat. = Satisfaction

Table VI
Correlation Matrices Showing Judges' Agreement
on Pre- and Post-tests

Pre-test					
	Judge 1	Judge 2	Judge 3	Judge 4	Judge 5
Judge 1	1.0000				
Judge 2	.8539	1.0000			
Judge 3	.8907	.8926	1.0000		
Judge 4	.9371	.8341	.8661	1.0000	
Judge 5	.9490	.8555	.8658	.9235	1.0000
Post-test					
	Judge 1	Judge 2	Judge 3	Judge 4	Judge 5
Judge 1	1.0000				
Judge 2	.8120	1.0000			
Judge 3	.8400	.8722	1.0000		
Judge 4	.7882	.8185	.7911	1.0000	
Judge 5	.8241	.7439	.7005	.6851	1.0000

N=50

Table VII shows that behaviours observed were confined to the group for which they were designed. None of the undesired behaviours were recorded for either group.

SUMMARY

One group was found to have performed significantly better than the other when all variables were considered simultaneously using the technique of multivariate analysis of covariance. Examination of the univariate F-ratio test and the step-down F-ratio test revealed criterion B (proportion) and satisfaction were responsible for the group differences. The least-squares estimates of effects, with covariates removed, showed that the differences were in favour of the experimental group.

Descriptive data indicated that the individual criteria for drawing ability were significantly correlated in the pre- and post-tests (except for criterion A with criterion B on the post-test). Satisfaction was significantly correlated with some dimensions of drawing ability over all subjects on the pre-test, but not on the post-test. Correlations between satisfaction and ability total scores showed significant correlations for the control group and for all subjects combined in the post-test.

Judges were determined to have a high level of agreement in their evaluation of the drawings.

The observer's check sheet indicated that all instructor behaviour items were checked in the appropriate group.

Table VII
Summary of Observer Check Sheet

Item No.	Item Group	Items Checked	Frequency	Group
1	Exp	*	3	Exp
2	Con	*	3	Con
3	Exp	*	3	Exp
4	Exp	*	3	Exp
5	Exp	*	3	Exp
6	Con	*	2	Con
7	Exp	*	3	Exp
8	Con	*	3	Con
9	Con	*	3	Con
10	Exp	*	3	Exp
11	Con	*	3	Con
12	N11			
13	N11			
14	N11			
15	N11			
16	N11			
17	N11			
18	N11			
19	N11			
20	N11			
21	N11			
22	N11			

CHAPTER V

DISCUSSION OF THE FINDINGS

The purpose of this study was to discover if grade seven students' drawing ability and satisfaction with drawing could be altered through instruction involving examination of basic shape relationships and perceptual training techniques. A summary of the findings, interpretation of the results, implications for educational practice, and suggestions for further research are presented in this chapter.

SUMMARY OF THE FINDINGS

1. The data were analysed using the technique of multivariate analysis of covariance. The multivariate F-ratio test revealed that one group performed significantly better on one or more of the six dependent variables.

2. Examination of the univariate F-ratio test and step-down F-ratio test indicated that criterion B (proportion) and satisfaction were responsible for the group differences.

3. Inspection of the least-squares estimates of effects, with covariates removed, revealed that differences were in favour of the experimental group.

4. A correlation matrix of all variables over all subjects displayed significant correlations between satisfaction and some dimensions of drawing ability (criterion C, criterion D, criterion E) on the pre-test. There were no significant correlations between

satisfaction and any of the five dimensions of drawing ability on the post-test.

5. There were significant correlations between the individual criteria of drawing ability on both pre- and post-tests (except between criterion A and criterion B on the post-test).

6. Correlations between satisfaction and total ability scores were statistically significant on the post-test for all subjects combined and for the control group individually.

7. Correlations between satisfaction and total ability scores in the experimental group changed from a positive result to a negative after treatment.

8. A Pearson Product-Moment correlation matrix computed on total drawing ability scores revealed that judge agreement was high.

9. A summary of the observer's check sheet showed that all teacher behaviours were confined to the group for which they were designed.

INTERPRETATION

Two major effects of instruction were noted. Students' ability to accurately represent the basic shape relationships (or relative proportions) of a figure improved while satisfaction with the results of drawing activity increased. That the increase in ability to make drawings with more accurate proportions was the direct result of instruction is a safe assumption. The increase in satisfaction, however, is more likely to have resulted indirectly from instruction. A change in satisfaction was probably stimulated in the subjects by the more

realistic post-test drawings, as no direct effort to influence student satisfaction was made by the instructor.

The occurrence of a significant change in ability to represent accurate large shape relationships is not surprising as the main emphasis of instruction was directed towards developing in students a strategy of working from the largest to the smallest relationships. This teaching method was adopted in an attempt to alter the usual drawing habits of typical young adolescents. Students in this stage of development characteristically become preoccupied with detail in their search for "realism" to the extent that proportion is forgotten. Drawings representative of this age very often are quite accurate, with respect to detail, but badly distorted because of poorly considered basic shape relationships.

The findings of this study have served to illustrate that the ability of grade seven students to make realistic visual representations can be improved by instruction that directs attention to basic shape relationships before attending to details. Examples of the pre- and post-test drawings of two subjects are presented in Appendix G. The pre-test drawing of Subject One clearly displays carefully represented detail and poorly considered basic shape relationships. The post-test drawing, however, illustrates an improvement in proportion with skill in detail representation remaining approximately the same. As proportion improved the realistic appearance of the drawing also improved. This subject registered an increase on the satisfaction scale of one point.

Subject Two achieved no change in ability score after treatment (both pre- and post-test ability scores were very high). An interesting

observation was that although no significant change in drawing ability occurred, the subject's satisfaction level dropped five points (on the nine-point satisfaction scale) indicating that the subject's level of expectation had increased. The reader will notice that the individual drawing style of both "subjects" was not affected by instruction.

In the study by Salome¹ (mentioned in Chapters I, II, and III) the amount of detail included in the drawings of grade five pupils was found to increase after perceptual training. An attempt was made in this study to make quantitative measures of detail included in drawings (criterion C), as well as the skill with which they were represented and the appropriateness of their selection. Unlike Salome's study no change occurred in criterion C.

Although criterion D (skill in selection and representation of details) was not statistically significant ($p < .1509$) the change which occurred was large enough to speculate that a longer period of instruction may have produced significant changes.

Significant correlations between the individual dimensions of drawing ability on the pre- and post-tests indicated that a strong relationship existed between each of the criteria used to evaluate aspects of realistic drawing.

The fact that correlations between satisfaction and ability total scores in the experimental group changed from positive to negative after treatments (although it did not reach the .05 level) suggests that the treatment could have had some effect. This result could, in part, be due to the diversity of abilities possessed by the individuals comprising the experimental group. Several students appeared to possess well-developed

critical abilities. Consequently, as the result of instruction their facility in drawing increased dramatically. Satisfaction changes in these students, however, remained small in relation to the rest as critical facility, essential to development in drawing skills, did not allow large increases in satisfaction. Other students in the class with limited analytical skills, recorded large increases in satisfaction resulting from relatively small changes in drawing skill. In other words, instruction could have caused the gap between "expectation levels" and drawing ability to widen in some cases and become narrower in others, depending upon the potential of individual students to develop their critical abilities.

Another contributing factor toward this correlation reversal could have been the differing instructional requirements in both groups. The nature of instruction in the experimental group required that the teacher provide considerable direction and help; whereas in the control group, drawing activity was relatively independent of the teacher. In fact, the major objective, stated overtly to the control group, was that they were to draw to "satisfy themselves." The natural reaction of students in teaching situations is to attempt to achieve "teacher expectations." In the absence of feedback from the teacher regarding quality of student work, the experimental group would have had greater difficulty establishing a feeling of satisfaction or dissatisfaction. Such a situation is unusual in the classroom and it is likely that, given feedback, the correlation would become positive again.

Related to this point is the finding that correlations between satisfaction and ability totals were not significant for either group on

the pre-test, but were positively correlated ($p < .05$) for the control group, and for both groups combined, on the post-test. Two implications are suggested by these outcomes. The nature of the requirement made of the control group (draw to satisfy yourself), and the absence of an implied "teacher expectation" regarding standards of work, allowed the subjects in the control group to evaluate feelings of satisfaction unworried by the possibility of failing to reach the teacher's unknown standards.

The second implication of the combined group's positive correlation (satisfaction with ability) is that the experimental group's non-significant correlation on the post-test was due to chance, or the effect of several extreme scores on a relatively small sample. The fact that the combined-group correlation on the post-test was positive is a finding that supports the theoretical literature regarding young adolescents' desire to make realistic imagery.

A high level of agreement among the drawing judges indicated that the judges held very similar perspectives regarding realistic representation. The final drawing ability scores, therefore, may be regarded as meaningful results for the purpose of this research.

The fact that the observer recorded no biasing influences due to instruction in either group means that differences which occurred most probably were due to the treatments.

IMPLICATIONS FOR EDUCATIONAL PRACTICE

The major impetus for this study was provided by a suggestion from the literature that the aesthetic development of most people seems to be arrested at adolescence. That "most people" become dissatisfied

with the results of aesthetic activity at this point is implied by such an observation. The literature revealed further, that, in drawing, the most popular subject of young adolescents is the human figure and the desired mode of representation is a "realistic interpretation."

Instruction in skills, necessary to the production of realistic images, produced significant changes in satisfaction and a major aspect of drawing ability.

An important implication for educational practice that may be derived from the above analysis is that students at the grade seven level should receive instruction comprised of sequentially ordered drawing tasks such that attention is directed to large shape relationships prior to attending to details. Perceptual training techniques should be employed in conjunction with drawing activity in order that these students may achieve the realism they desire.

Another implication of the findings is that the human figure should be included in the drawing program as a drawing subject during grade seven.

A more logical approach to the teaching of drawing in earlier grades may be suggested by these findings. If some instruction in observation skills and perceptual training was undertaken in grades prior to grade seven, the "crisis of adolescence" in image making may, in part, be averted. If students, upon feeling the desire to make realistic representations, were able to draw upon appropriate skills dissatisfaction would be less likely to result.

The results of this research may benefit the student in that drawing skills, acquired through instruction of the type outlined herein,

may be used in other areas of the art curriculum. As drawing is basic to most art activity, drawing skills are likely to enrich the art student in many other aspects of art. A concomitant increase in satisfaction in other areas may also result.

SUGGESTIONS FOR FURTHER RESEARCH

Suggestions for further research are outlined below:

1. A study to survey the relationship of satisfaction to drawing ability through all the grades.
2. A study investigating the possibility of increasing satisfaction through similar instruction methods in higher and lower grades.
3. An empirical study to discover if a stage of "readiness" to draw realistically exists in the child's aesthetic development.
4. A long-term study to discover if the relationship between satisfaction and ability changes with an increased period of instruction.
5. A long-term study using the same instruments to discover if an increased period of instruction produces significant changes in criteria other than proportion.
6. A similar study or studies in other areas of the art curriculum. Painting or sculpture could be substituted for drawing, for example.

SUMMARY

The following conclusions were drawn upon interpreting the findings:

1. Grade seven students' ability to make realistic visual

representations can be increased on the criteria of proportion by instruction that directs attention to large shape relationships before details and involves perceptual training techniques with drawing activity.

2. Such instruction also has the effect of increasing students' satisfaction with the finished drawing.

3. Although skill in selection and representation of details did not achieve statistical significance, the change which occurred was large enough to speculate that a longer period of treatment could have produced a more meaningful result.

4. Descriptive data indicated that correlations between satisfaction and drawing ability totals reversed from positive to negative, although not significantly, during the treatments. Possible explanations for this could have been: (a) Disparate changes in the gap between "levels of expectations" and drawing abilities across all the subjects in the experimental group; these disproportionate changes being due to the very wide range of potential (to develop critical abilities) in the individuals comprising the group. (b) The nature of instruction in the experimental group implied "teacher expectations" which were unknown to the class, due to the necessary absence of feedback, thus establishing feelings of satisfaction that would have been more difficult for subjects in the experimental group than for those in the control group as the latter were directed to "draw to please themselves."

5. The fact that correlations between satisfaction and drawing ability totals were significant ($p < .05$) and positive for the control group and for both groups combined on the post-test indicated; (a) the

instruction to the control group ("draw to please yourself") enabled the subjects in this group to more easily establish feelings of satisfaction, and (b) the experimental group's non-significant negative correlation may have been due to the effect of several extreme scores on a relatively small sample.

6. The drawing judges held similar perspectives.

7. No biasing teacher behaviours were recorded by the observer.

The implications for educational practice from this study are:

1. Students in grade seven should receive drawing instruction comprising sequentially ordered drawing tasks such that attention is directed to large shape relationships prior to details. Perceptual training techniques should be employed in conjunction with drawing activity.

2. The human figure should be included as a drawing subject in grade seven.

3. That instruction in observation skills prior to grade seven could, in part, avert the "crisis of adolescence" in image making is an implication that can be derived from the findings.

4. Drawing skills acquired by the student through directed observation lessons may be of benefit in other areas of the art curriculum as drawing is basic to most art activity in the present curriculum. Concomitant increases in satisfaction may also result in other areas of the curriculum.

FOOTNOTES TO CHAPTER V

¹R. A. Salome, "The Effects of Perceptual Training Upon the Two-Dimensional Drawings of Children," Studies in Art Education, 7, 1 (Autumn, 1965), 18-33.

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APPENDICES

APPENDIX A
QUESTIONNAIRE TO OBTAIN SUBJECTS'
PREVIOUS ART EXPERIENCE

Name

School

Age

Birth Date

Have you had lessons in art other than normal school art lessons within

the last year? Yes 2 years? Yes 3 years Yes

No

No

No

If you have, where?

APPENDIX B
JUDGES' EVALUATION GUIDE

EVALUATION GUIDE

Drawings will be evaluated according to the criteria stated below. Judges will mark the drawings for each criterion using a seven-point scale.

CRITERIA

- A. All major body shapes (head, trunk, arms, legs, hands, feet) must be present in concordance with the attitude of the model.
- B. The major body shapes should be in correct proportion, approximating the proportions of the model.
- C. Details such as eyes, eyebrows, nose, mouth, hair, hands, clothing, etc. should be present in concordance with the attitude of the model.
- D. Details should be represented with skill. For example, consideration should be made of the appropriateness of detail selected and represented, the accuracy with which the detail is related to the major body parts, and the skill with which detail has been translated into linear form.
- E. Appendages must join the body in a functional manner.

SUMMARY

- A. Major body shapes present
- B. Major body shapes in proportion
- C. Details present
- D. Details represented with skill
- E. Appendages join the body in a functional manner

APPENDIX C

JUDGES' SCORE SHEET: DRAWING ABILITY TEST.

JUDGE SCORE SHEET*

JUDGE _____

Each criteria should be marked on a one to seven scale.. One (low) seven (high), or one (poor) seven (excellent).

Drawing No.	Criteria (score)				
	A.	B.	C.	D.	E.
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
.....					
98.					
99.					
100.					

*Original score sheet comprised five pages listing space for all 100 drawings.

APPENDIX D

AMENDED SATISFACTION/DISSATISFACTION SCALE*

* Marguerite Lienard, Studies in Art Education, Washington, D. C.: National Art Education Association, 3, 1 (Fall, 1961).

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AMENDED SATISFACTION/DISSATISFACTION SCALE

1. It is terrible. I despise it.
2. It is very bad.
3. It is bad.
4. It is not very good.
5. It is a toss-up. I neither like it nor dislike it.
6. It is a little better than a toss-up.
7. It is fairly good. I am getting better.
8. It is good. I like it.
9. It is excellent. I like it a lot.

APPENDIX E
OBSERVER'S CHECK SHEET

OBSERVER'S CHECK SHEET

Date:

Time:

School:

1. Methods of examining basic shape relationships were demonstrated.
2. Attention of the students was directed to the model as a whole, rather than as a relationship of parts.
3. Methods of relating detail to basic shapes were demonstrated.
4. The teacher constantly directed the students' attention to visual relationships existing in the model.
5. The teacher constantly questioned the students about the visual relationships of the model.
6. The teacher constantly emphasized the idea that the student's effort should be directed towards satisfying his own standards in drawing.
7. Questions such as, "How do you draw a foot?" etc., were answered by verbal explanation and demonstration on the chalkboard.
8. Questions such as "How do you draw a foot?" etc., were answered by demonstration on the chalkboard without specific instruction.
9. Emphasis was placed upon students' solving drawing problems themselves rather than teacher-student discussion of these problems.
10. Teacher-pupil discussions of characteristics of the model occurred.
11. The drawing stimulus was changed at least three times during the lesson.

12. Drawing tasks set by the teacher left the class largely unoccupied.
13. The teacher consistently ignored students' requests for help.
14. The teacher constantly displayed irritability, impatience or disinterest.
15. Constraints placed upon the behaviour of the class were excessively restrictive.
16. The teacher used sarcasm in referring to students.
17. The teacher praised the work of the class unnecessarily or excessively.
18. The teacher condemned the work of the class unnecessarily or excessively.
19. The teacher praised the work of individuals unnecessarily or excessively.
20. The teacher condemned the work of individuals unnecessarily or excessively.
21. The teacher made unnecessary gestures which could have been interpreted by the class as praise.
22. The teacher made unnecessary gestures which could have been interpreted by the class as condemnation.

APPENDIX F

DETAILED TRANSCRIPT OF KEY QUESTIONS
AND INSTRUCTIONS USED TO GUIDE THE
PRODUCTION OF "DRAWING ONE" BY THE
EXPERIMENTAL GROUP

Following is a brief transcript of typical questions, answers, and instructions that were employed to guide production of the first drawing by the experimental group. This transcript is broken into appropriate, and sequential, divisions relating to major areas of concentration.

To assist the reader, symbols indicating questions, answers, or instructions have been used. They are:

- A. Answer (student)
- I. Instruction (teacher)
- Q. Question (teacher)

HEIGHT-WIDTH RELATIONSHIPS

Q. If you drew the model so that the head touched the top of your page, the feet touched the bottom and the shoulders touched each side, would the drawing "look right?" (Given 18 inch by 24 inch drawing paper and a standing model.)

A. No, the figure would be too wide.

I. When making a drawing, as a beginner, it helps if your page has the same height-width relationship as your model. See if you can fold your page so that it does this.

USE OF THE DRAWING INSTRUMENT

I. Most people, when learning to draw, use the pencil as though they are writing. By this I mean that once they have drawn a shape they are afraid to change it, even though it does not "look right." Drawing becomes much easier if you are not afraid to change what you have

already drawn. The best way to do this is to draw lightly at first, with continuous strokes until you can see that the shape is more to your liking. Then it is a good idea to work over it with heavier strokes to reinforce the favourable shape.

EXAMINATION OF BASIC SHAPES

I. Look at the figure and think of it as a collection of shapes.

Q. What shape does the head resemble from the front?

A. An oval.

Q. Is the head the same width top and bottom?

A. No.

Q. Is it like an oval then?

A. No.

Q. What solid object that you are familiar with does it most resemble?

A. An egg.

Q. Does the head resemble an egg if you look at it from the side?

A. No.

I. Try to draw on the back of your piece of paper the basic shape of the head as you see it. Don't worry about details. Draw two or three if the first one doesn't satisfy you.

I. Look at the trunk, disregard the arms and legs if you can.

Q. Where is the widest part of the trunk?

A. Across the shoulders.

Q. Where is the narrowest part of the trunk?

A. Across the waist.

Q. Is the distance across the hips equal to the distance across the waist?

A. No. It is narrower across the hips.

Q. Would the shoulders be joined best by a curved line or a straight line?

A. A curved line.

Q. Why?

A. Because both the shoulders of the model slope down from the neck.

I. Try to draw a basic body shape, on a spare piece of paper, that resembles the trunk you are looking at.

I. Look at the arms and legs, forget about the hands and the feet.

Q. How many parts does each arm and leg have?

A. Two.

Q. Is each part the same shape?

A. Not exactly.

Q. Are they similar?

A. Yes.

Q. What do you notice about each of these shapes that is similar?

A. They are all long thin shapes.

Q. Are each of these shapes the same size?

A. No, the upper parts of the arms are bigger than the lower parts and it is the same for the legs.

Q. Is each part of each arm and leg the same thickness all the

way along its length?

A. No, usually they are thicker towards one end.

I. See if you can draw some shapes on your spare piece of paper which resemble the arms and legs you can see on the model (model rolled up pant leg and sleeve for this activity).

I. We are going to try to put some of the pieces together, now that you have practiced drawing them, to make a "basic drawing." By that I mean we are going to make a drawing of the main body parts, but we are not yet going to try to draw the details.

Q. As you have a piece of paper folded to make the same height-width relationship as the model, how do you think the drawing will best fit the page?

A. With the head close to the top, the feet close to the bottom, and the arms close to the side.

Q. In that case where do you think the end of the body will be on the page?

A. Half-way down.

Q. You are saying then that the upper half of the model is the same length as the lower half?

A. Yes.

I. (To one student) Measure the upper half of the model with a yard rule and compare it with the lower half.

Q. (After student has measured) What did you find?

A. The lower half is a little longer than the upper half of the figure.

Q. Where will the end of the body of the drawing fall on the

page then?

A. A little above half-way.

I. Make a mark on the page to indicate this.

Q. Before you begin to draw, do you know how much space the head will take up of the upper half of the drawing?

A. About one third.

I. Draw the upper half of the figure making sure the head and body fill the spaces we decided upon. Don't forget the shapes of these two things that you practiced drawing before. (Time was allowed for everyone to do this.)

Q. Before you draw the legs, do you know which is the longer part of the leg, upper or lower?

A. Lower.

Q. Whereabouts on the page will we place the knee then?

A. A little above halfway between the end of the body and the bottom of the page.

Q. How far apart?

A. About the width of the head.

Q. Are both knees directly underneath the body?

A. No, one is, but the other is a little to the side.

I. Mark the positions of the knees and draw the top half of the legs. (Time was allowed for this.)

I. Decide for yourselves where the ankles are and draw in the bottom half of the legs. Don't forget to leave space for the feet.

Q. How big is a foot compared to a head?

A. I don't know; smaller I think.

I. Measure a foot and compare it to your head.

Q. How does it compare?

A. It is longer by a couple of inches.

Q. Are you looking at the side or the front of the model's feet?

A. One from the front and one from the side.

Q. When you look at a foot from the front does it appear longer than the head?

A. No.

Q. That is because it has been foreshortened. How thick does it appear in comparison to the head then?

A. It is about as thick as half the length of the head.

Q. How could you best describe the shape of a foot?

A. It is flat on the bottom and slopes up to the ankle, sort of like a triangle.

I. Try to draw the feet, remembering the things we have just discussed. (Time was allowed for this.)

Q. Where are the model's elbows?

A. About half-way between his shoulders and his hips. (The model was posed with hands on hips.)

Q. Are the elbows touching or overlapping the sides of the body?

A. No, they are away from the body.

I. Mark positions for the elbows and draw the upper part of the arms. (Time was allowed for this.)

Q. Where are the wrists?

A. Level with the waist and not quite touching the body.

I. Mark positions for the wrists and draw the lower halves of

the arms. (Time was allowed for this.)

Q. How big is a hand when compared to a face?

A. Big enough to cover the face.

Q. When you don't draw each finger what shape does a hand resemble?

A. A mitten.

I. Try to draw the hands remembering these two things. (Time was allowed for this.)

Q. Have we forgotten any major part of the figure?

A. The neck.

I. Draw it in.

I. You now have made a "basic" figure drawing. The next most important step is to add details. However, many of you have made your drawings very heavy so that it would be difficult to draw details over the top. Therefore, you should place a thin sheet of clean drawing paper over the top of your drawing. Check to see that you are able to see the "basic" drawing underneath.

I. Look at the model's shirt. See how it wrinkles and folds in certain places.

Q. Where can you see the most wrinkles and folds?

A. Where the arm bends and the shirt goes into the pants and under the arms.

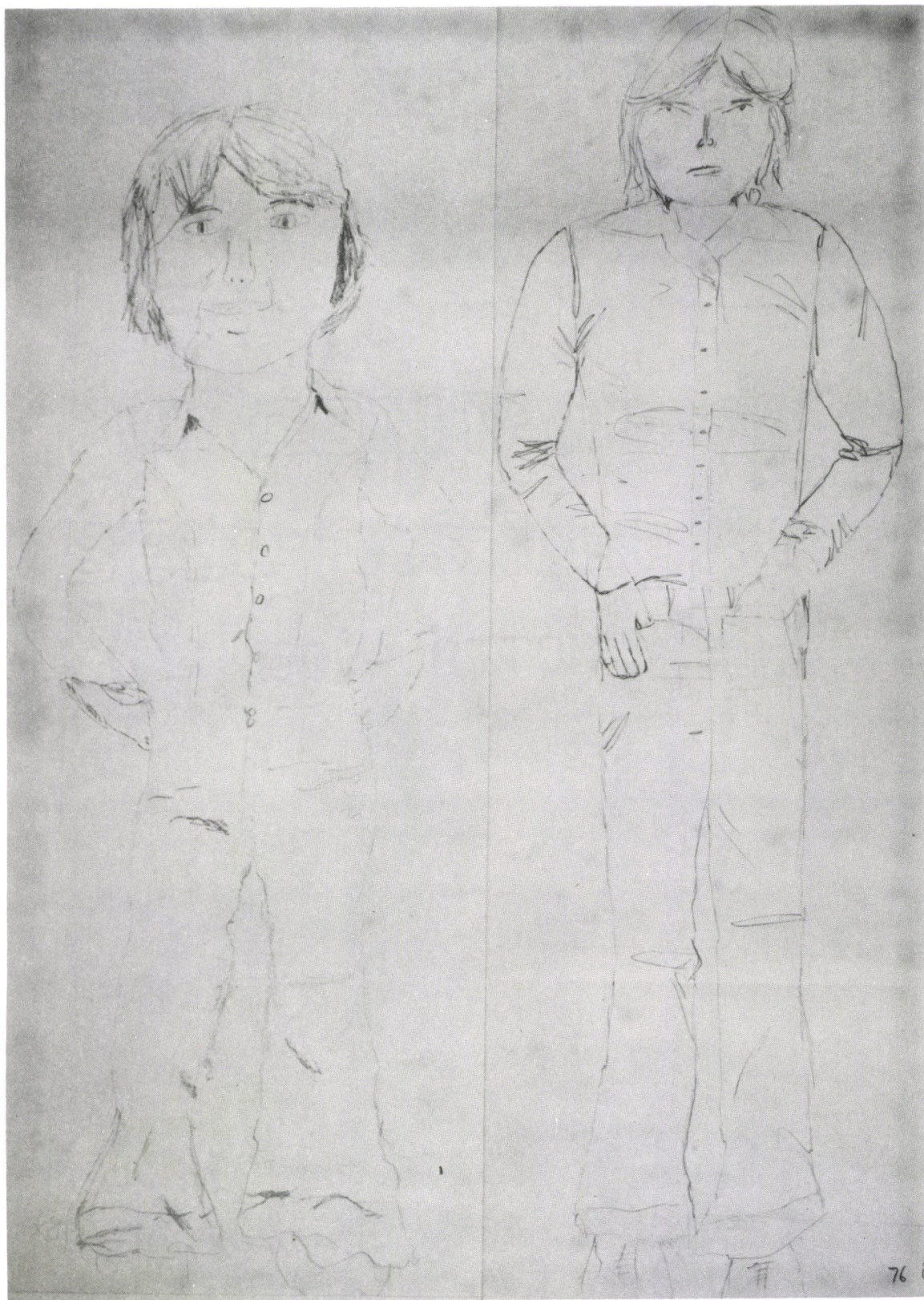
I. Try to think of these wrinkles and folds as patterns of lines. Imagine how you would draw over your "basic" drawing with this pattern of lines so that you made a shirt. Go ahead now and try to do this. Look carefully at the model and try to copy the pattern of folds that

you see. (Time was allowed for this.)

I. Go ahead with the rest of the figure in the same way,
putting on details as well.

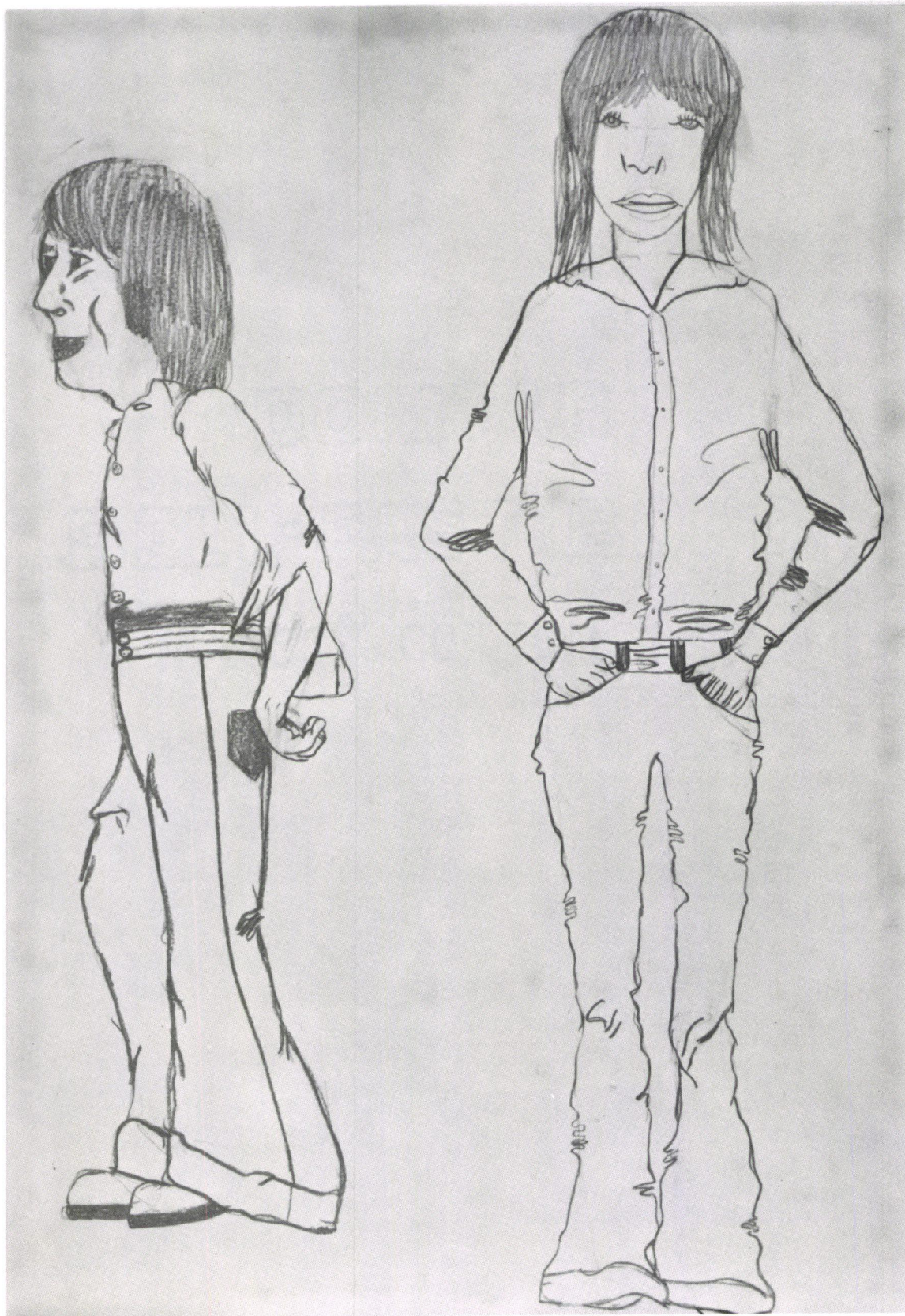
APPENDIX G

PHOTOGRAPH A AND B (SUBJECT ONE)
PHOTOGRAPH C AND D (SUBJECT TWO)



A. Subject One
Pre-test

B. Subject One
Post-test



C. Subject Two
Pre-test

D. Subject Two
Post-test