

THE EFFECT OF ART EXPERIENCE IN DETERMINING  
CHILDREN'S DEPENDENCE ON CONCRETE VISUAL  
STIMULI FOR IMAGE-MAKING

David L. Paterson

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ABSTRACT

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Art educators generally accept that children express their view of the world through the images they create. Past research suggests two things: firstly, that image-making skills contribute to the development of conceptual abilities and secondly, that restricting opportunities for expression which require these skills hinders this development.

The thesis proposes that, when this happens, a dependence on other concrete images interposed between the imaging process and the image created by the child occurs. Groups of students 10 and 11 years old and 13 and 14 years old from two different schools (classified as either "regular" or "art-based") were asked to make images based on four different stimuli: a still-life, a photograph of that still-life, a poem describing a landscape, and a film of a landscape. The study suggests that there is a greater dependence on concrete visual stimuli among students in the regular programme than among those in the art-based programme, particularly among 10 and 11 years old. It further suggests that 13 and 14 year-olds rely on this type of stimuli more than do the 10 and 11 year-olds. This is evident among students from both the regular and the art-based programmes. The thesis examines these phenomena in the context of current educational practice.

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## INTRODUCTION

In recent years, I have become concerned by an apparent deterioration of the capacity of students to create images drawn directly from their experience. This seemed to apply equally to their experience of events, and to their appreciation of the appearance of the world around them. In considering this state of affairs, my initial inclination was to reflect on my own attitudes and approaches to teaching. I have been involved in art education for many years, a large number of them in the same school. It was certainly fair to assume that a different generation of students would bring changes in their attitudes to school and to life, changes that were not echoed in my teaching.

However, this would not explain the generally diverse difficulties which many of my students encountered in school. It was this fact, heightened by the effect of changes in the school system, which convinced me that something more was amiss than the need to reappraise my personal stance. I became convinced that there was a link between the difficulties demonstrated by my students and the reduction in the amount and quality of art being taught in schools because of altered priorities. Furthermore, I was conscious of being part of a society in which the proliferation of images, created by a widespread media industry, continued apace and which had become an inevitable influence on our perception of the world. This imagery continues to constitute an important feature of the experience of our students.

However, the thesis does not investigate these influences directly but discusses them briefly in the following section. I assume that this influence is important and go on to develop the argument that it coincides with a period when opportunities for art experience in schools are diminishing. During this period, educational policy has removed art specialists from elementary schools. The effect in the high schools has been more subtle but shrinking enrollment allied with the exigencies of new workloads has made the viability of art programmes extremely tenuous. This diminishing role of art in education, therefore, coincided with the difficulties I had observed in the working attitudes of my students.

In examining this situation, I describe the educational milieu in which we function and suggest that we may find within it the causes of a specific problem, i.e. that children, in being denied an adequate art experience in school, lose the ability to make images directly and, as a result, may display inhibited development of conceptual skills. This hypothesis reflects the notion that art, as part of the school programme, helps free the individual from a dependence on concrete or pre-formed visual stimuli. The opportunity for the development of those visual skills associated with artistic expression contributes to the refinement, therefore, of conceptual abilities which enable each of us to process our view of the world into images - mental and otherwise - which are crucial to a clear understanding of the world and our function within it. If this conception is indeed accomplished through the medium of



images, then a deterioration of the capacity to formulate these for ourselves becomes a serious handicap and, perhaps, an open invitation to exploitation. In other words, visual perception, whether used in making or reading images, is an important link between man and his understanding of his environment.

Art should therefore be considered as a basic component of the curriculum. It deals not only with the application and manipulation of a set of artistic elements but also with the development of those "qualitative discriminations required by an individual to interact actively, effectively, and sensitively with his fellow man and with his environment". (Roosevelt, 1977, p.2)

To investigate this problem, I devised a series of four tasks where students were expected to make a drawing or a painting. The stimuli for this work were designed to test the students' abilities to work from real objects, ready-made images, and a verbal description. The students who participated came from schools in which the art programme could be described as "regular" or "art-based". The regular programme was considered to be typical of that existing in most elementary and high schools in the Montréal system. The art-based situation was chosen since it represented an attempt to integrate increased opportunities for art experience into the standard curriculum; more art was offered than can be said to be typical. Further details about both school situations may be found in Appendix A.

The students selected in both cases were 10 and 11 year-olds and 13 and 14 year olds. The four tasks were as follows:

- 1) a drawing of a still-life
- 2) a drawing from a photograph of that still-life
- 3) a painting of a landscape from a descriptive poem
- 4) a painting of a landscape from having seen a projected film of it

In designing this project, I anticipated that students from the art-based programme would respond more favourably than those from the regular programme to those tasks which did not involve the intermediate or ready-made image, i.e. the drawing from the real still-life and the painting from the description of the landscape.

I would like at this point to examine briefly the two factors identified in the introduction as being the principal causes for the difficulties which concern me.

#### The impact of the visual environment on image-making

Contemporary man has been described by McLuhan (1965) as being vulnerable not only to radioactive fallout but also to "media fallout." A major characteristic of this "fallout" has been the proliferation of visual imagery described earlier. Not only do we live in a "media culture"; it has become, very largely, a "mediated" culture.

Now is the first 'software' generation. The T.V. youngsters are the first to be divorced from the old dominant hardware of books and machines. This generation was baby-sat by T.V. They watched it from their playpens.

Grey at three, they had seen the gamut of adult violence and confusion in every part of the world. At the age of six, confronted by the old schoolhouse hardware of texts and tests: 'See Dick run, see Jane jump,...', it dropped out. (McLuhan, 1970, p. 64)

McLuhan describes our culture in terms of the slogans which have come to dominate it. The children of the T.V. age therefore become "Spock's Spooks" in his eyes and while through our own we may find it difficult to recognise them as being the children we teach, we cannot fail to comprehend the metaphor he intends.

Postman suggests a correlation between the effects of what he calls the "television curriculum" and the decline in literacy of our students. He argues that "its imagery is fast, moving, concrete, discontinuous, alogical, not conceptual processing" (1979, p.75). His response is to emphasise the prominence of language education since he sees it as the principal means of countering the "hidden curriculum" of television and the media. For Postman, the instantaneous nature of the electronic information described above contrasts with the "slow-moving, hierarchical, logical, and continuous" nature of the written and spoken word -- "the image - concrete, unique, nonparaphrasable - versus the word - abstract, conceptual, translatable" (1979, p.55).

Postman is undoubtedly correct in stating that there is a difference between digital and analogical processing. However, it is the interaction between the two that creates an optimum potential; the whole is greater than the sum of the parts, a condition seldom considered in today's schools. While McLuhan and Postman differ widely in the perspective from which they interpret the effects of communications media, they agree that the accessibility of its imagery has had and will continue to have a profound influence on our culture. When considering Postman's attitude, we sense that he believes that the strength of an image lies in its powers of imposition. The word, on the other hand relies on exposition for its effectiveness. Somehow, implicit in this belief is the conviction that the former is bad and the latter good, presumably because the profusion of visual imagery pre-empts the need for effective verbal communication. McLuhan would agree with the latter part of the previous sentence. His observations stress that the imagery of the media to which I have referred has supplanted words as a means of teaching and, perhaps, also as a means of learning for today's students, certainly beyond the immediate sphere of the classroom. If this is so, then, in a situation where rapidly-changing concrete stimuli abound, disorientation is inevitable unless a link can be maintained between the visual experience and the real one.

#### The School milieu and its treatment of art

In the introduction, I mentioned two backgrounds from which the subjects involved in this study were chosen. These two milieux are

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selected because they represent a contrast: one environment in which the experience of art, as a day to day activity in school, is comparatively enriched, and another environment in which the environment in which the experience of art is quite minimal. An important feature of the latter case is that it represents the "normal" situation as it exists in most Montreal schools. These two situations offer two views of art as a component of schooling and, as such, reflect different educational attitudes and priorities.

A Utopian view of the purpose of education would suggest that it

...should...preserve the organic wholeness of man and of his mental faculties, so that as he passes from childhood to manhood, from savagery to civilization, he nevertheless retains the unity of consciousness which is the only source of social harmony and individual happiness. (Read, 1954, p.69)

For Read, education and his definition of the purpose of art are irrevocably intertwined. However, the technological age in which we live has produced an expectation for our educational system couched primarily in technological terms, and the purposes of art have been seen to lie outside this domain. Ironically, in an age of increased leisure, education remains education for work and the value of knowledge lies in its commercial practicality. While Read supports a definite social purpose for art, it is held up for us to see as an ideal worth striving for. John Kenneth Galbraith simply points out that

In the mature corporation, the decisive factor of production...is the supply of qualified talent... A complex educational system has come into being to supply that talent...and as qualified manpower has become important, education now has the greatest solemnity of social purpose.

(1968, p.375)

So we are faced with an ideal which may be close to the purpose and direction of our work. However, we cannot fail to recognize its eccentricity in the context of current educational practice. That is to say, within the proposals for change which have been made, there is no clear justification for art because there is no understanding of its value for the developing child much beyond the manipulation of artistic elements mentioned in the introduction. Therefore, while, as art teachers, we may deplore any dilution of the role of art in school, we are powerless to affect a reappraisal of the patterns of the curriculum.

Rudolf Arnheim ascribes the problem to the fact that education has become massively pre-occupied with concrete events and the supremacy of language as a path to knowledge. Insisting that it has led to a "triumph of blindness in our time", he argues,

We are victims of an inveterate tradition according to which thinking takes place remote from perceptual experience. Since the senses are believed to be concerned,

with individuals, concrete events, they are limited to collecting the raw material from experience. It takes "higher" powers of the mind to process the sensory data. In order to learn from experience the mind must extract generalities from the particulars, and in the realm of the generalities no further commerce with direct perception is supposed to be possible. (Arnheim, 1965, p.2)

This statement confirms the greater eminence being granted to digital processes in which numerical and verbal signs predominate.

Conversely, this places those processes which are more closely related to the senses, the analogical, in a position of lesser importance. Within such an affirmation lies a denial of the capacity to solve some problems through oblique reference to others, to relate questions in quite unrelated domains, and to develop modes of thinking which are lateral rather than sequential. A quite practical incentive to abandon this tack lies in the realisation that, while the public treasury of knowledge remains the basic source of materials for the teacher,

...he cannot hope to transfer it bit by bit in growing accumulation within the student's mind. In conducting his teaching, he must rather give up the hope of such simple transfer, and to strive instead to encourage individual insight into the meaning and use

of public knowledge. (Scheffler, 1965, p.138)

It seems sad to contemplate that, at the present time, the implementation of such an apparently straightforward ideal would necessitate for most schools some fundamental pedagogical changes.

It is probably true to say that, in one form or another, movements advocating educational reform are always with us! For the greater part, they seem to end in frustration. In the late nineteen sixties, some educators sensing that significant reform was unattainable, attacked the very idea of the school. They concluded that the best path lay in eliminating them altogether. Agreeing with several other noted theorists, Paul Goodman proposed that there should be, for lack of a better word, a process of "de-schooling". The substance of his argument is well illustrated by the titles of some of the literature published: Instead of Education (Holt, 1977), Compulsory Miseducation (Goodman, 1972), School is Dead: An Essay on Alternatives In Education (Reimer, 1971), and The Great Brain Robbery (Paton, 1971).

The strength of their argument lies less in any new philosophy proposed than in the evidence of dissatisfaction that these authors hold for the institution we call school. Their criticisms of its aims and methods can be seen to parallel, although for quite different reasons, the popular disquiet with the public school system and its effectiveness. Amid demands for greater efficiency in the teaching of basic knowledge, art education has become one of the least controversial subjects in the curriculum.



No school system can survive without a basic program that includes the best elements of reading, writing, and arithmetic. Too often, however, when we think of basics, those appear to be the only areas of concern. It follows then that many other curricular areas are eliminated and a number of other serious issues are slighted or ignored completely.

The return to the basic proponents have found a powerful ally in those groups leading tax-cutting revolts who would have us believe that if we just cut out the frills and develop a bare bones curriculum supported by a vigorous testing program, we will not only restore confidence in learning, but also get rid of violence and vandalism, drug abuse, and teenage pregnancy. (Burk, 1979, p.4)

While it has hardly assumed the role of scapegoat, our school system is sensitive to public pressure and a gradual but unrelenting centralization in educational policy and its administration has taken place. This centralization has forced the arguments into the political arena where several constituencies vie for control of the legitimate goals of education. Although it represents little more than a narrow re-assertion of traditional imperatives, the back to basics movement is among those which have had an influence in

fostering a renewed accentuation of those areas in education most critically tied to Galbraith's "solemnity of social purpose".

The cumulative effect is that

Most schools give their students a powerful and effective aesthetic education: they teach them that interest in the arts is effeminate or effete, that study of the arts is a frill, and that music, art, beauty, and sensitivity are specialized phenomena that bear no relation to any other aspect of the curricula or of life. (Silberman, 1970, p.183)

Silberman's criticism confines itself to a view of art accepted as part of the fabric of the school. While no one would suggest that there exists an overt policy aimed at disparaging the arts, in practice existing prerogatives and the attitudes they foster produce exactly the effect he describes.

#### Defending the role of art in the curriculum

While the work of researchers such as Read (1954), Lowenfeld (1964), and Feldman (1970) stressed the role played by art in the mental growth of individuals, discussion of their findings has centred on the developmental stages of artistic expression as they are found in the growing child. How art could be typified at any given age tended to obscure how it affected the increase of knowledge which was an equal concern of the authors mentioned above. The

effect of this has been an apparent contradiction between the goals and practices of art teaching. The emphasis on art production has ensured that, in the minds of the public, school administrators, and other teachers, the "manipulation of artistic elements", spoken of earlier became the prime justification for the inclusion of art in school programmes. The value of art in the curriculum, then, remains tied to its perceived value in society. This is the view in which art "is lifted out of the context of daily life, exiled by exultation, imprisoned in awe-inspiring treasure-houses" (Arnheim, 1969, p. 295). Not unexpectedly, therefore, its complementary educational role as a progenitor of modes of thinking and as an important tool in the acquisition of knowledge receives only token acknowledgement.

If we accept that, in developing our understanding of the world, the mind must both gather information and process it, then perceiving and thinking collaborate in the process of cognition. This confirms the parallel participation of the senses and the intellect:

Wherever human beings deal with reality most effectively, abstract thought remains intimately connected with the search for, and the sensitivity to, the revealing experience of the senses. (Arnheim, 1954, p. 107)

However, as I have tried to show, present educational dogma insists on maintaining an artificial separation of the two. As Arnheim says, "today, the prejudicial discrimination between perception and thinking is still with us" (1969, p.2). His allusion to the "triumph

of blindness in our time" explains why

A child who enters school today faces a 12 to 20 year apprenticeship in alienation.

He learns to manipulate a world of words and numbers, but he does not learn to experience the real world. At the end of his schooling, he has been conditioned to live in our culture. (Petersen, 1972, p.55)

The somewhat contradictory nature of this statement may explain some of our disorientation for it implies that the "real world" is somehow separate from the culture we are conditioned to live in. Moreover, our age has been characterized by instability and, as Postman suggests, "too much change, too fast, for too long has the effect of making social institutions useless and individuals perpetually unfit to live amid the conditions of their own culture" (1979, p.21). The school, therefore, seems to contribute to the very circumstances which ultimately confuse its purpose and place in society. It was in the context of this enigma that Illich concluded that its position was untenable.

In reviewing a problem observed in the realm of art teaching, therefore, I see it as a manifestation of a set of irreconcilable conflicts in which our schools are embroiled. In asking

How often are our students reminded that the real goal of their frantic educational effort is the total well-being of man himself, a creature whose powers, however fantastically

projected, spring from an organism which  
has remained unchanged through eons of  
time?

and that

Is it possible that these powers are being  
diminished and atrophied by conceptual  
processes that nourish and utilize only a  
part of the inherited human potential?

Wolff concludes that the condition I have described is "...partly  
created by education itself and then misunderstood by it" (1965, p.220).

This is the point being made by Arnheim although he attributes  
it primarily to a prejudiced view of perception.

The arts are neglected because they are based  
on perception, and perception is disdained  
because it is not assumed to involve thought.  
(Arnheim, 1969, p.3)

He contends, moreover,

that the cognitive operations called thinking  
are not the privilege of mental processes  
above and beyond perception but the essential  
ingredients of perception itself. (p.13)

"Visual thinking", therefore, as Arnheim defines it is an active  
mental quality which uses images at the root of its operation. Of  
the two principal types, images of the real world and those of the  
mind, both are indispensably associated with art activity, even when

the nature of that activity is schematic, as in the artwork of children. While children do not "abstract" in the sense of selecting essentials from a total number of possibilities, their work reflects a grasp of the elements which are essential, or fundamental, to their particular vision. These become the schema of their art and suggest cognitive processes beyond the mere recognition of those "essentials".

When we perceive an object, we grasp the essential qualities of that object, or we don't see it at all. If I see a round thing I am seeing 'roundness at the same time. The concept and the percept are united. (Petersen, 1972, p.58)

If this is as Arnheim suggests, then the need to systematize perception by logical, rational means may not exist. There may be no intermediary action and, in art, the process seems to go one step further.

Works of art...are peculiar indeed because they take the word "in-formation" literally: they give shape rather than merely supply data. They do not intend to portray and present things but rather properties by means of things. They express the most universal through the most concrete; they are symbols that need not be codified; and they achieve fidelity by deviating from what they reproduce. (Arnheim, 1959, p.503)

It is in the "giving of shape" that art plays a fundamental role in education for it is here that it differs most radically from other aspects of the contemporary curriculum. A denial of the opportunity to exploit this potential is bound to affect not only the ability to draw or paint, but will seriously impair the development of important learning capacities.

The purpose of the study

The purpose of the project was to study the capability of four different groups of children in making drawings and paintings based on four different stimuli. In choosing students from two age groups—10 and 11 year-olds and 13 and 14 year-olds—I wished to compare any differences occurring between these age levels in their responses to the stimuli. I was also seeking contrasts according to the type of art programme in which the children were enrolled: regular or art-based. The selection of stimuli was within two topics: still-life and landscape. Within each of these, a further subdivision allowed me to gauge any differences which depended on whether the stimulus contained pre-formed or ready-made images. By these means, I hoped to disclose the strength of the dependence on concrete images displayed by these students and whether this changed according to age or the type of scholastic background from which they came.

### Project description

As I have said above, the stimuli were derived from two topics, a still-life and a landscape. In the case of the still-life, all of the students taking part in the study were asked to make drawings in pencil either from the still-life itself or from a photograph of it. All students were also expected to make paintings based on either the text of a poem describing a landscape or from a film showing a landscape. The two drawings of the still-life and the two paintings of the landscape constituted the four tasks which made up the study.

The drawings portrayed the ability of the students to record the visual appearance of a static group of objects. The paintings were images derived from memory and, to some extent, knowledge. The choice of stimuli was an attempt to establish a situation in which the pictures made by the students would be based either on ready-made, concrete images or not. The still-life, therefore, was presented in one of two forms: as a group of objects or as a photograph of those objects. A somewhat different circumstance prevailed with the painting since it was not possible to put the children in front of the actual landscape. A film, therefore, which is a series of concrete images, was used for one landscape task. In the other, only a verbal description was heard, pictorial images being completely absent. It will be seen that there is no direct correlation between the still-life and the landscape tasks. For each task in each topic, the stimulus, therefore, was different.



The photograph of the still-life cannot be equated to the film of the landscape beyond the fact that both the photograph and the film involved ready-made images. By the same measure, I did not consider that there existed a common factor linking the still-life itself to the poem about the landscape unless we consider that neither stimulus contained any concrete pictorial component. However, in the context of the concerns which underlie this thesis, I sense an affinity between the imaging skills required to transform three-dimensional space into a mental image and those needed to translate the abstract idiom of words.

#### The design of the study

##### The students who participated

The students who took part in the study were from schools selected because the teaching of art was given either low or high prominence. Students were divided into two main age groupings: 10 and 11 year-olds and 13 and 14 year-olds. The principal or competent teachers in the schools were asked to choose students willing to participate in the study, the choice conforming to a normal cross-section of the school population relative to intelligence, aptitude, and sex. While the two milieux from which the students came proposed quite different educational philosophies, I believe it is important to recognize that, in both cases, students did receive some art experience in their weekly school schedule. The two programmes, identified as regular with low experience of art, and art-based with high, were differentiated by degree. That is to say,

in the regular programme, art was not excluded from the curriculum entirely.

The scholastic milieu: regular programme

Grouped in this category were those students whose art exposure was considered to be typical of present-day elementary and high schools. In this case, the elementary school chosen was Meadowbrook in Lachine, a feeder school for Lachine High, the second school in this category. In both situations, the children's experience in school allowed some exposure to art activities but not of a prolonged or extensive nature. For the purposes of the project, these students were designated as being in the regular programme.

The scholastic milieu: art-based programme

Grouped in this category were students whose art exposure was thought to be enriched or extended when compared to the average or typical elementary or high school. Students from both the elementary and high school sections attended F.A.C.E., an alternate school within the jurisdiction of the Protestant School Board of Greater Montreal. At F.A.C.E. (Fine Arts Core Education), the basic philosophy of the programme stresses a compulsory exposure to the arts for all students. This is achieved by both regular art classes at all levels and by an overt attempt to integrate the arts into ordinary classroom activities throughout the school (Kindergarten to Grade 11). Perhaps the most significant difference between this school and the others mentioned is that art is given at least equal status with the more academic aspects of the programme. For the purposes of the project,

therefore, students at F.A.C.E. were designated as being in the art-based programme.

From each milieu at each age level, two groups were formed. Each group was assigned two tasks, e.g. drawing from the still-life combined with painting from the verbal description of the landscape. The allocation of tasks among the eight groups is shown in Table 1 on page 23.

#### The tasks

Still-life drawing. This task required the student to draw, in pencil, a still-life composed of solid geometric forms. (See Figure 1) The still-life objects were coloured black, white, and a range of greys. Some of the surfaces were textured while on one, a black and white photograph of a girl was pasted. The lack of organic form and "colour" was a deliberate attempt to limit the response of the students to one which would stress skills of observation and factual representation.

Photograph drawing. In this task, students were shown ten photographs taken of different views of the still-life described above. The views corresponded to those seen by the students confronted by the actual group of objects. Students were asked to choose one photograph and make a pencil drawing from that.

Text painting. This task required each student to make a tempera painting based on a short section of the soundtrack taken from the National Film Board of Canada film Morning On the Lièvre.

This film is an attempt to create a visual document of a specific Canadian landscape, that described by Archibald Lampman in a short poem of the same name.

The students involved in this task, saw no pictures, being asked to respond only to the spoken text as taken from the soundtrack. The text which was used is set out below.

Softly as a cloud we go,  
Sky above and sky below,  
Down the river; and the dip-  
Of the paddles scarcely breaks,  
With the little silvery drip  
Of the water as it shakes  
From the blades, the crystal deep  
Of the silence of the morn  
Of the forest yet asleep.

Film painting. In the task, students were once again asked to make a tempera painting. However, in this case, the painting was based on the visuals of the filmed "narrative" of the same section of poem mentioned in the third task above. On this occasion, students did not hear any spoken description.

Table 1

Distribution of students within groups according to the tasks assigned

Type of programme	Group	Number in group	Age	Type of stimulus			
				SD	PD	TP	FP
Art-based	A	10	10 and 11	*		*	
	B	10			*		*
	C	10	13 and 14	*		*	
	D	10			*		*
Regular	E	10	10 and 11	*		*	
	F	10			*		*
	G	8	13 and 14	*		*	
	H	8			*		*

Labels given to tasks: SD = Still-life drawing  
 PD = Photograph drawing  
 TP = Text painting  
 FP = Film painting

Figure 1



The landscape topic was chosen since it allowed greater freedom of interpretation than the still-life topic. The images presented, whether verbally or visually, were fluid and changing - a sequence of images rather than a static view.

#### Comparison of tasks

The two topics presented two separate opportunities for image-making to each student: a still-life drawing and a landscape painting. There was no attempt, however, to compare drawings with paintings.

The judges compared the drawings and based on this judgement I looked for contrast between those drawings based on the real objects, the still-life and those based on the photograph of the still-life. Similarly, the judges compared the paintings and I tried to isolate differences between those which were made from the film and those which were made from the less concrete spoken description. I further examined the responses of the students according to their age and the educational milieu from which they came. Other variables were not taken into consideration when discussing the results of the study, e.g. the intelligence will affect the personal response of individuals, the study was

designed to consider only the averaged response of each group to any given task.

#### Still-life drawing and photograph drawing

The two still-life tasks represented a type of activity which provided only limited scope for freedom of expression. The principal quality looked for by the judges in the drawings was an accurate representation of the relative size, shape, and texture of the various objects and their spatial relationship to each other. In making drawings of this sort, students, particularly at the older age level with which I was dealing, tend to be critical of their representational skills. Any apparent discrepancy between the actual appearance of the objects, therefore, and that seen in the drawings seemed likely to inhibit confident drawing for some students. I expected that those students who drew from the photograph would experience less difficulty than the other group because the subject-matter, the still-life, was already reduced to a concrete, two-dimensional image, this would suggest that these students were not as dependent on the intrusion of an intermediate, ready-made image between the stimulus and the image created by the students themselves.



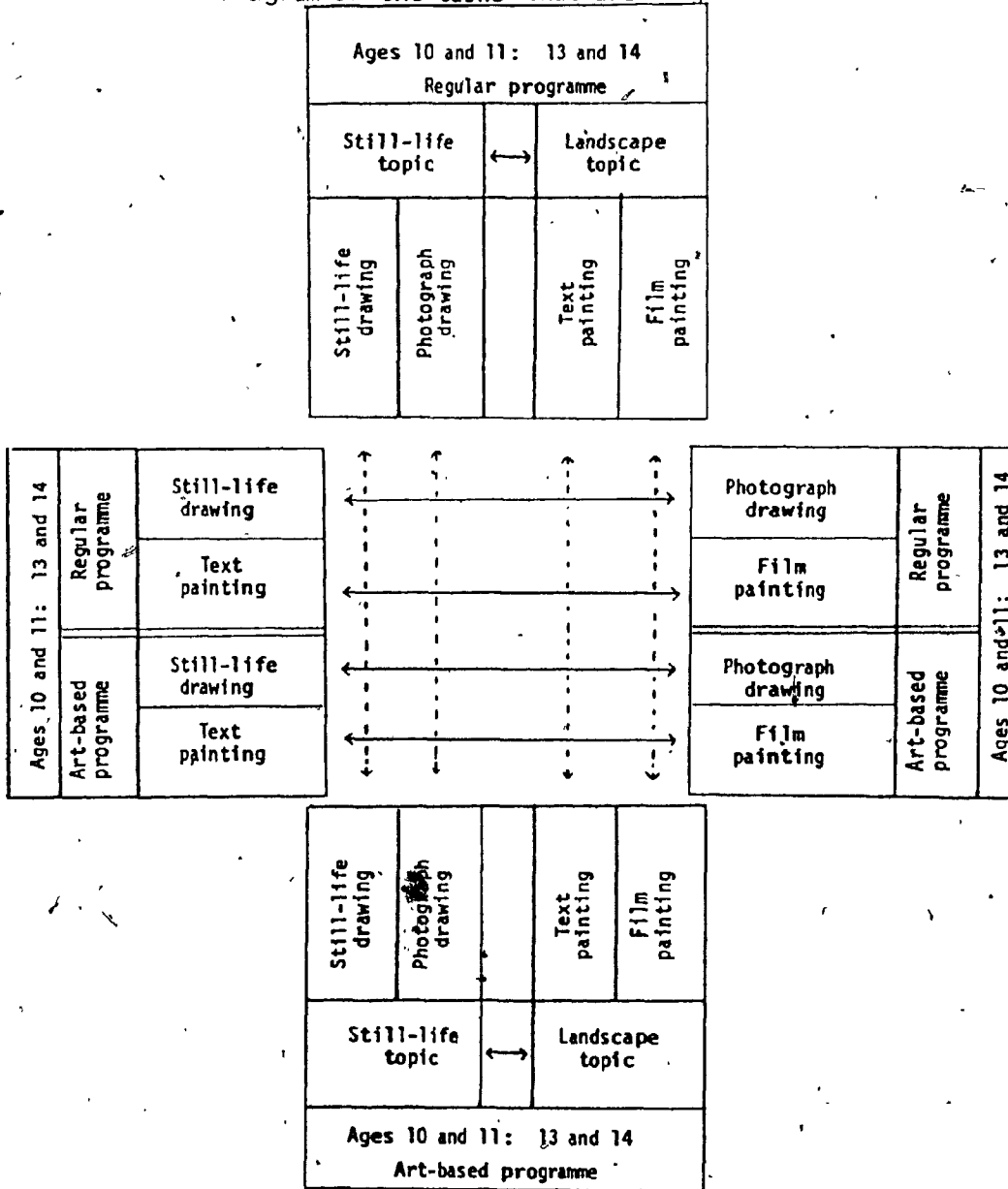
### Text painting and film painting

In painting from the text and the film, I expected that the students would make images which were more personal and expressive than when they were drawing from the still-life. The "real" landscape was never shown to the students taking part. However, an experience of some real landscapes could be considered as part of their broader background and I assumed that this background was common to all students.

In general, I expected that students would experience less difficulty in completing the tasks within the landscape topic than those within the still-life topic. In these two tasks, I anticipated that students from the regular programme would respond more favourably to the visually projected landscape. This would suggest a similar dependence on the intermediate image as found in the one associated with the photograph of the still-life. Similarly, I expected that students from the art-based programme would fare better when working from the non-visual stimulus, particularly at the older age level. Because of their background, I thought that they would be more attuned to cope with this, the least concrete stimulus of all.

Table 2

Diagram of the tasks that are compared



## Method

### Physical disposition

I was fortunate that, in each case, the cooperating school set aside a room where the children could work undisturbed for the duration of time required to complete the tasks. As it turned out, only one student out of the 76 participating felt that he did not have enough time to complete his work.

For administrative convenience, groups of students worked on their two tasks consecutively. For example, the first group began by making its drawings of the still-life. When all students had finished, they were allowed a short recess during which time the still-life was dismantled and the room prepared for the painting session. The subjects then returned, listened to the text, and proceeded with their paintings.

### Instructions

Instructions given to the groups were the same in every case. I explained that the purpose of the project was to help me compile data for research on which I was working. It was not a competition, nor were the works for exhibition. The students were assured of the anonymity of their work. Drawings and paintings could be made any size although standard 18" by 24" sheets of manilla paper were provided as were all other materials. Myself, or another teacher, was present to offer procedural assistance only. Students could see their neighbours at work and were allowed to discuss each other's work as it proceeded.

### Identification of Works

When completed, all works were identified only by number. These numbers were assigned in blocks of five, not necessarily in sequence. For example, the first group was coded 61, 62, 63, 64, 65, 71, 72, 73, 74 and 75. This was done to minimize the possibility that the judges would recognise a pattern in the works they were examining. In retrospect, it was probably not necessary since the overall style of the works was sufficiently varied. The numbers were entered on master lists which I had prepared and identified students by Group, Age, Scholastic Ability, and Sex. (See Appendix C)

Once all of the test pieces had been completed, they were bundled as follows:

Drawings from elementary school

Paintings from elementary school

Drawings from high school

Paintings from high school

No other indication was given as to their origin, and they were then submitted to the judges.

### Judging

A panel of three judges had been established to grade the works.

They were:

1. an elementary teacher who was interested in art as a classroom activity and whose pedagogical training included courses in art,

2. a high school teacher of art with wide experience in several schools,

3. a university professor in art education.

Prior to the drawing and painting sessions, the three judges met with me to discuss the general concerns I held, the proposed experiment, and the judging procedures. At the same time, we selected a simple scale which grades the merit of the works from 1 (low) to 5 (high). Individual works were examined during the judging process and a consensus reached by the three judges of its merit within this broad classification:

1 - Poor

2 - Fair

3 - Good

4 - Very good

5 - Exceptional

Reaching a consensus as the basis of the judging process meant that when the judges disagreed on a particular drawing or painting, they discussed it and the majority rating was used. In no case was a consensus impossible and agreement was generally reached to the satisfaction of all three judges. Apart from the initial discussions mentioned above, I was not involved in the judging process at all. I believe that, within the general reservations which one may have about evaluating children's art, the scores of the judges were objective and conformed to the principles discussed with me prior to the judging process itself. Scores were awarded in relation to

the testing objectives outlined below.

Judging: Still-life drawing and photograph drawing. The judges were shown the still-life arrangement from which the drawings were made. They were also shown the photographs of the still-life. The choice of geometric forms had been discussed and it was agreed that this helped to remove any advantage of memory or previous knowledge of the objects selected. In these tasks, I wished to evaluate the single skill of representation and it was from this orientation that the judges considered the drawings.

Judging: Text painting and film painting. The judges were shown the filmed excerpt complete with its soundtrack. These tasks presented a greater problem for the judges in that subjectivity played an inherently greater role in the adjudication of the works examined. We had discussed the likelihood that works in this genre would not necessarily be factual in their representation, and it was accepted that paintings which caught the prevailing mood of the filmed narrative most strongly would be judged more favourably than those which presented a landscape in which memory or knowledge seemed to play a more influential role.

#### Data

The scores awarded by the judges were entered on the master lists of groups and scores (Appendix C - Subject Identification Tables). The statistics available from these lists were collated to show the comparisons which are discussed and these are presented as Appendix D - Tables of Comparisons. The information in these

tables is summarized to display the most relevant contrasts in Tables 3, 4, 5, and 6 on pages 40, 41, and 42 respectively.

Some observations on the attitudes of students in the study.

In commenting on how students involved in the study approached the tasks, it is important to emphasise that these comments are quite subjective; moreover, they tend to echo the working attitudes of students which I have observed in regular teaching practice. However, taken in conjunction with the conclusions drawn at the end of this paper, they may throw light on how some children approach tasks assigned to them in the art room. The judges were not aware of these attitudes since none were present at any of the drawing or painting sessions and I did not discuss this matter with them prior to judging.

As I said earlier, standard 18" by 24" sheets of manilla paper were provided. While the means to cut these were available not one student elected to reduce the size of the paper or to change its shape. This applied equally to students from the regular and art-based programmes. In the still-life tasks particularly, the actual drawings varied greatly in size and placement on the sheet of paper. Some measure of this variety can be seen in the illustrations (Appendix B). Generally speaking, the 10 and 11 year-old students from both programmes seemed much more "involved" in the project than the older groups.

When I consider how the groups approached each set of tasks, my first impression of the 10 and 11 year olds in the regular

programme suggested that those students drawing from the photograph of the still-life seemed to proceed more "readily" than those working from the still-life itself. It is possible that these students, from a school which was more structured academically, responded more easily to the more concrete stimulus. Certainly, they were more dependent on the "teacher", asking many procedural questions as if anxious to please and to complete the tasks correctly. In general, the 10 and 11 year old children from F.A.C.E. were more independent but did not seem to be particularly enamoured by either of the still-life tasks.

From my vantage point as an art teacher, the paintings of the landscape made from both stimuli by the 10 and 11 year old students from the regular programme seemed less "imaginative" than those from the art-based programme at the same age. The children from the regular milieu seemed unsure of how to approach either of the painting tasks and more than half began the "painting" by making a pencil sketch of the landscape to which paint could be added. This was not the case at F.A.C.E. and possibly reflects a lack of experience in using paint by the children at Meadowbrook. It seemed to me that, in general, the students from the art-based background displayed a more positive response to the real still-life and the verbal description of the landscape than to the photographs and the film.

The 13 and 14 year-olds from the regular programme accepted involvement in all the tasks assigned quite equably, but not with



the same enthusiasm as the younger children. The older students from the art-based programme seemed particularly uncommitted, perhaps for the reasons mentioned in Appendix A. With these students, the landscape paintings from both stimuli were accomplished in rather perfunctory fashion and my general reaction to their work was one of disappointment.

Summary. The design of these tasks made it possible to compare the responses of groups of students at two age levels, 10 and 11 years old and 13 and 14 years old, from two different scholastic milieux, one in which the teaching of art was assigned relatively low importance, the regular programme, and another in which art's importance was correspondingly higher, the art-based programme. The students taking part in the study were divided into groups according to age and scholastic background and were then asked to make a drawing and a painting. Depending on the group, the drawing was made either from a still-life or from a photograph of that still-life and the painting was made from a spoken description of a landscape or from the projection of a filmed landscape. A diagram of how the tasks were compared by group appears as Table 2 on page 28.

### Evaluation of results

Before trying to reach conclusions about the results of the study, it needs to be stated that, in most cases, differences in the performance of the various groups were quite small. Part of this may be attributed to the small size of the participating groups. However, other variables almost certainly contributed to the final results and these also should be considered.

#### Uncontrolled variables

A number of variables in the study were not controlled. Sex and intelligence were mentioned previously. Others include the particular past experience in art of the students, the time of day during which the various groups undertook the tasks, and, possibly, a generally negative reaction either to the specific tasks or to the idea of participating at all in such a project. My remarks earlier (page 19) concerning the actual qualitative differences between the regular and art-based programmes are certainly relevant in this respect and I believe that, so far as the older students from F.A.C.E. were concerned, a number of factors may have combined to lead to disappointing results. In retrospect, having been able to discover more fully the type of art activity these children had experienced, I believe that the rather "free-wheeling" and somewhat inconsistent nature of art teaching at F.A.C.E. during the year or two prior to this study affected the response of the students adversely. A more clearly defined, organized art programme in this instance may have produced a clearer differential or comparison

between the two milieux. Nevertheless, the philosophical and pedagogical differences in the two programmes were significant enough to make comparisons appropriate and, when appraising the comparative milieux which were available to me, the F.A.C.E. "arts core" programme was the only practical choice..

### Interpretation

From a strictly statistical point of view, the deviation in results from my hypothesis can be seen in Table 6 on page 42. It shows that a significant degree of conformity did occur. However, such conformity may reflect differences in average scores which, as I have said, in some cases are very small. Furthermore, when we consider the mean scores in the two topics achieved by students from the two types of programme, Table 3 on page 40, not only are the differences quite minor but, in five cases out of six, the regular programme students score higher. This can be seen as a less serious consideration, however, when it is noticed that a higher mean score from the regular programme usually denotes a particularly strong response to the tasks where concrete, ready-made stimuli were used. Significantly, more often than not, this contrasts with relatively poor performance in the same tasks by students from the art-based programme. An examination of the data contained in Table 3 reveals that the average scores achieved by these art-based students are more homogeneous, the extremes in the scores being not quite as great. Tables 4 and 5 on page 41 display the highest and lowest scores for the four tasks. Interestingly, despite the possible insignificance of the statistical differences mentioned

earlier, in seven out of eight cases, these results are in line with my hypothesis.

Two further observations can be made. First of all, the scores of the older students, no matter from which background they came, are closer than those of the younger students. The greatest extremes in scoring occur, as can be seen in Tables 4 and 5, with the 10 to 11 year-olds where the "highest" and "lowest" group responses appear at this younger age, once again in seven instances out of eight. It is the performance of these students, therefore, which exerts the most significant influence on comparisons between the two factors of art experience represented by the regular and art-based programmes.

My second observation is a corollary to this. At 13 and 14 years old, the variation in score between the tasks is much closer than at age 10 and 11. This lack of contrast in response to the tasks suggests that many of the uncontrolled variables highlighted earlier may have been most influential at this age level. It may also suggest that the common response of the adolescent to art is rather negative. At a time when the developing individual tends to be most self-critical, this is probably a significant variable affecting the artwork of these students. This is not a unique finding of this study but corroborates, rather, the widely-accepted view of an attitude to art typical of adolescents.

#### The results of the study when comparing related tasks

Still-life drawing and photograph drawing. At age 10 and 11, students from the regular programme scored well in the photograph

drawing and poorly in the still-life drawing. Their scores, in this instance, represented the best performance of any group for the photograph drawing coupled to the worst of any group for the still-life drawing. The scores of the 13 and 14 year old students from the regular programme show, contrary to my expectation, a slight bias in favour of the still-life drawing. With the same age students from the art-based programme, the result was again the opposite. When the two age levels are combined, the students from the regular programme achieved a higher average score in the photograph drawing than in the still-life drawing. In the art-based programme, students fared better with the still-life drawing than the photograph drawing.

Text painting and film painting. The range of response was much greater in these tasks than in those based on the still-life. When comparing all four tasks, as can be seen in Table 3, the lowest score of any group (task TP, regular programme at age 13 and 14) and the highest (task FP, regular programme at age 10 and 11) occurred in the landscape topic. As with the still-life tasks, the greatest extremes in scoring appeared at the younger age level. Here, a distinct preference was demonstrated by higher scores for the film painting. The reverse was the case in the art-based programme where the text painting clearly prevailed. The 13 and 14 year-olds from the regular programme maintained the preference of the younger counterparts by achieving higher scores for the film painting. I had anticipated, however, a strong response on

Table 3

Average scores for the four tasks  
together with mean scores for the two topics

Factor	Average scores				Mean Scores <sup>1</sup> Main Topics		
	Still-life drawing	Photograph drawing	Text painting	Film painting	Still-life	Landscape	
Regular programme	: At Age 10 and 11	2.5	3.2	3.1	4.0	2.85	3.5
	At Age 13 and 14	2.87	2.5	2.0	2.88	2.68	2.44
	Overall	2.67	2.89	2.61	3.23	2.78	2.91
Art-based programme	: At Age 10 and 11	3.0	2.3	3.8	2.7	2.63	2.95
	At Age 13 and 14	2.6	2.7	2.6	3.0	2.65	2.8
	Overall	2.79	2.5	3.2	2.55	2.64	2.87

<sup>1</sup> The mean scores are those derived by combining performance in  
the two related tasks:

Still-life = still-life drawing and photograph drawing.

Landscape = text painting and film painting

Table 4

Highest average score in the four tasks for any age level

Task	Regular programme		Art-based programme	
	Age 10 and 11	Age 13 and 14	Age 10 and 11	Age 13 and 14
Still-life drawing (SD)			*	
Photograph drawing (PD)	*			
Text painting (TP)			*	
Film painting (FP)	*			

Table 5

Lowest average scores in the four tasks for any age level

Task	Regular programme		Art-based programme	
	Age 10 and 11	Age 13 and 14	Age 10 and 11	Age 13 and 14
Still-life drawing (SD)	*			
Photograph drawing (PD)			*	
Text painting (TP)		*		
Film painting (FP)			*	

Table 6

Results when comparing 1) the average scores for Task SD with Task PD,  
Task TP with Task FP and 2) the mean scores for the still-life topic  
with the landscape topic

Factor	Tasks				Topics	
	Still-life drawing	Photograph drawing	Text painting	Film painting	Still-life	Landscape
Regular programme	: At Age 10 and 11	(*)		(*)		(*)
	At Age 13 and 14	*	( )	(*)	*	( )
	Overall		(*)		(*)	(*)
Art-based programme	: At Age 10 and 11	(*)		(*)		(*)
	At Age 13 and 14	( )	*	( )	*	(*)
	Overall	(*)		(*)		(*)

\* = Highest average score, from scores, Table 4

(\*) = Highest average score, from scores, Table 4, where this  
coincides with predicted performance from comparisons, pp.  
24 and 25.

( ) = Predicted highest score, from comparisons, pp. 24 and 25.



the part of the 13 and 14 year old students from the art-based programme in favour of the text painting, but this was not so. The film painting received a higher average score than the other landscape task. When the two age levels are combined, students from the regular programme scored higher with the landscape paintings based on the visual stimulus than with the paintings based on the text. Students from the art-based programme reversed these results.

When comparing the topics, still-life (tasks SD and PD) and landscape (tasks TP and FP), stronger responses to the stimuli were produced by the latter. This had been expected and perhaps reflects the students' perception of the still-life as being an "exercise". The landscape painting, on the other hand, was rooted much more in "imagination" and since, in five out of six cases, the mean scores for the landscape are higher than those for the still-life (Table 3, p. 40), this suggests a much more positive response on the part of both regular and art-based students to this type of activity than to one in which little scope for imagination is allowed.

#### Discussion

The most obvious observations that can be made from an interpretation of the data is that the milieu affects the performance of students most strongly at the younger age level. At age 10 and 11, the scores reflect preferences for the various stimuli which are relatively distinct. There is a sufficient differentiation between the performances in two related tasks by students from the two milieux to make comparisons reasonably valid. Therefore, I believe

it is significant, for example, that students from the regular programme performed better in the tasks which used ready-made images as stimuli (the photograph drawing and the film painting). Equally significant is the fact that the 10 and 11 year old students from the art-based programme reversed these preferences. This response highlights a contrast not only in the particular types of stimuli preferred but also, in the light of remarks made earlier (p.34), in the attitudes developed from the type of art experience offered in the school. What I am suggesting is that the dependence on concrete images is more likely to be a characteristic of an educational milieu which favours Scheffler's gradual transferral of knowledge "bit by bit in growing accumulation within the student's mind" than one in which a freer, more questioning orientation prevails.

Thus, the still-life topic, as one reading of the mean scores would suggest, reflected an approach to teaching where a minimum degree of "questioning" was allowed. However, students from the regular programme were more able, or more willing, to cope with the still-life than those from the art-based milieu. Added to this is evidence that the younger students from the regular programme were not comfortable in making images from the spoken description of the landscape. When we couple these phenomena to my observations concerning the greater degree of teacher dependence displayed by these students, it leads to a question concerning the bias of the elementary curriculum as it applied in this situation, a situation which was described on page 20 as being typical of

the majority of elementary schools in our system and which certainly adheres to the definition of a well-organized educational environment (see Appendix A - Regular programme: Meadowbrook).

In such a situation, there exists the probability that the disfavouring of the arts is part of a broader pedagogical stance which seems to discriminate against the development of imagination and self-reliance on the part of the elementary child. In doing so, it excludes some key principles of learning.

...despite such reformers as Dewey, we still have an educational system which places little value on the cognitive potentials of fantasy, imagery, and diverse media, all of which are key components of the arts. (Ives and Pond, 1980, p. 336)

I agree with the above statement for, from my particular viewpoint, it is the opportunity to develop these potentials in the art-based programme which contributed to the contrast in performance between the two milieux at the age 10 and 11 level. The extension of this stresses the need to maintain a diverse and challenging art programme. This is supported by another possible interpretation of the mean scores for the still-life and the landscape. Since, in five out of the six categories specified, the landscape topic scored higher than the still-life, a comparison between art activity as "exercise" (the still-life) and the art activity as "imaginative experience" becomes apparent. Students from both types of programme

clearly preferred the stimuli which allowed a greater scope for "imagination". A measure of this preference is to be found in the fact that one ten-year old student from the art-based programme refused even to attempt the still-life drawing. His handling of the landscape painting, however, was judged to be 'exceptional'!

I do not wish to suggest that drawings of the type included in this study are characteristic of art activities in the schools discussed. However, I believe that the mainstays of most elementary art programmes predispose students to think of art as an isolated activity bearing, as Silberman (1970) said, "no relation to any other aspect of the curricula or of life." In this context, the art activity itself may assume greater significance than teachers intend and it seems possible that this task-oriented approach is one of the most powerful negative influences on the development of confident image-making among our students. In discussions with teachers and administrators from the art-based programme (F.A.C.E.), it was obvious that the art content of the programme was by no means "formal". Specialist teachers were few but there was an attempt to allow the child's experience of art to co-exist, naturally, on an equal footing with the academic subjects. One result of this was that the art activity of the students was not thought by them to be "somehow separate" from other subjects; it was not "lifted out of the context of (their) daily life". (Arnheim, 1969, p. 295)

While relatively clear contrasts can be found in the scores of the 10 and 11 year old students, the opposite tends to be the case

with those who were 13 and 14 years old. While the general homogeneity of the responses in this age group may have reflected an ambivalence toward the study by these students, nevertheless the results are in conflict with my expectations. It seemed probable that exposure to an art-based programme - or lack of such exposure - over an extended period of time would produce responses which were more clearly defined, particularly since the image-making difficulties which prompted my choice of thesis topic were first noticed in young adolescents whom I taught and whose background in art was relatively restricted. The possibility that the relative prominence of art in the school would have a measureable effect on the image-making capability of children as they matured led to my choice of two age levels. I had reached the conclusion that inhibited image-making became more pronounced as the child grew older. In this respect, the study seems to support my view but shows less contrast between the types of programme used. Within the very narrow statistical limits produced, some dependence on the pre-formed image as stimulus becomes apparent, even with 13 and 14 year old students from the art-based milieu. Allowing for some qualifications, therefore, the study generally supports my hypothesis.

Among the many variables which were in effect at this age level, the strength of dependence on the concrete image may have been one of the most influential. In this regard, then, even the art-based programme such as operated at F.A.C.E., was insufficient to counteract the pressures of the "visual environment" discussed on page 4.

### CONCLUSION

The study raises a number of questions. Some of these bear directly on the initial concerns of the thesis, others on the type of art programmes which operate in our schools. From the writer's point of view, the two are closely related. The thesis deals with the possible role of the image in the process of learning and with how educational attitudes toward that role may determine the place of art in the curriculum. It further implies a relationship between the declining importance of art programmes and the increasing difficulty experienced by many children in creating images from non-concrete stimuli. It also suggests that, in denying this important form of perceptual thinking, other more conceptual processes may be suffering.

In this context, the impact of the predominantly visual forms of mass communication which influence our view of the world is considerable and the proliferation of such images has taken place without adequate means to cope with it. The educational dilemma which I have tried to describe may be one result of this widespread influence; on the other hand, as opportunities to make images disappear because of the reduction of art programmes, surely the inability to read and understand them will become more acute.

In the early part of the thesis, I discussed Postman's separation of the abstract-ness of the word from the image's concrete-ness. The study does not confirm this separation. It suggests rather, a relationship which is complementary or mutually supportive.

As I have said, to deny one form of perception leads to the inhibition of another. This is the substance of Arnheim's argument when he asserts that "visual thinking" is a quality present not only in art but in all types of human activity. Nevertheless, visual thinking lies most closely within the domain of the artist; the role of art in its development then becomes crucial as does the need to preserve opportunities for art experiences in our educational system.

The work of art symbolizes all the levels of reality that lie between the phenomenon and the idea. It counteracts the impoverishment of vision which results when any one of these levels is viewed in isolation of the others and encourages the synthesis of conception which is the mark of wisdom. (Arnheim, 1953, p. 97)

The synthesis of conception, no matter where or how it is obtained, is the basis of all learning and its encouragement is a primary, though not exclusive, prerogative of our schools. If a deterioration of imaging ability threatens that synthesis, then it portends problems for the whole area of cognitive development. In these circumstances, a prominent role for art in education should then become axiomatic. As Dewey says

Art, in its form, unites the very same relation of doing and undergoing, outgoing and incoming energy, that makes an experience to be an experience. (1934, p. 48)

W.B. Yeats put it another way.

God guard me from those thoughts men think  
In the mind alone;  
He that thinks a lasting song  
Thinks in a marrow bone.

There exists more than one path to knowledge. In challenging us to recognise that we have a choice, Yeats leaves no doubt as to the direction conventional wisdom would have us take. His statement is a warning that we have already accepted this advice, and are poorly guided by it.

#### Some implications for further study

Part of the difficulty underlying my particular study is the fact that I have been dealing with effects which are subtle and which are the result of changes taking place over a number of years. In this respect, it is rather similar to the situation facing a medical researcher who tries to establish the effect over a protracted period of time of a foreign substance on the human body. Irreparable damage may be done before it is possible to isolate the cause or prove it. Is this the dilemma hinted at by Yeats? It certainly seems to me that too much of contemporary pedagogical thinking is done "in the mind alone", and it has left us with a "bare bones" approach to curriculum planning which, for all its concrete objectivity, will still produce effects which are difficult to predict. My thesis suggests that the problems it examines are already indicative of negative responses to this process of change. Unfortunately, if the comparison drawn above is true, any recommendations which result



from research in this area are likely to be too late to do much good.

However, there are certain specific issues raised, some of which stem from the study itself and others which echo difficulties encountered during the research process. In this latter category, for example, while there is plenty of documentation emanating from studies concerned with the effect of mass media on children's perceptions, it concentrates primarily on the impact of television in changing attitudes and expectations. There is very little evidence of research into the saturation effect of 'mass media' on the spontaneous image-making of children. I believe this is an important and neglected area of study. Pariser (1979) suggests that, since ready-made images surround us, it may be easier for children to turn to these than to rely on their own visual experience. I am certain that this is the case and it is possible that an examination of the stereotypes which children presently use in their art would reveal changes taking place from those which hitherto have been generally accepted. Because of the number of the causes involved, it is not possible to attribute these changes to only one. However, I believe that the study does support the idea that children's confidence in making images from their "own" experience is in danger.

The dilemma posed for the researcher in this area is to be able to define at which point children's own experience can be separated from the "visual" or "mediated" one. This could prove to be an interesting topic in itself since, in many cases, the two must coincide sufficiently strongly that the individual does not

distinguish between the experience represented in the media and personal experience. Many students seem to prefer the mediated world to the real one. Perhaps the same is becoming increasingly true of adults. If this is so, then we need to find a means of explaining the concrete imagery around us and of exploiting it positively in education. What would be the result, for example, of pursuing Pariser's proposition by providing more ready-made images as the basis for teaching in art? Can a means be devised to use such images which would mitigate dependence on them?

This study suggests a dependence on concrete imagery. If this is the case, maybe more extensive use should be made of images in other subject areas so that a more effective interaction between perception and cognition can be encouraged. This does not require a greater influx of audio-visual devices and materials, but does require a higher sensitivity to what might be called 'the power of images' and the part they play in our collective consciousness. We may then come closer, as Arnheim suggested, to a marriage between "abstract thought" and "the revealing experience of the senses" (1954, p. 107).

The electronic market-place seems to have appreciated this union long ago as witnessed with astonishing clarity in most television commercials. The succinctness imposed by the severe limitation of time demands an intensely effective commonality of purpose linking words and pictures. The message may not always be palatable but it is usually to the point. Moreover, the point is made very quickly, a consideration of no small consequence to

teachers whose own medium tends to be, as Postman concluded, "slow-moving, hierarchical, logical, and continuous" (1979, p. 55).

The "logical and continuous" nature of teaching seems to be most predominant in the regular school programme. Furthermore, it is in this milieu that fewer opportunities for experience in art are being provided. This suggests that, more and more, children in school are being forced to conform to processes which fit the pattern of one type of learning only. My thesis attempts to compare the responses of children from this type of background with those from one which offers a more extensive integration of art into classroom activities. Obviously, there is scope for further investigation of the differences between the two for it is not clear to how great a degree art experience operates in a manner which may be best described as 'therapeutic' in the context of a rather rigid curriculum. However, if there is a therapeutic validity for the teaching of art, we may wish to examine what factors make it so and what value these have in the broader pedagogical dimension. This can only lead to a better understanding of what is lost with the elimination of art programmes from the school curriculum and what this eventually implies for the general cognitive development of children. From a more positive point of view, it should also provide an insight into which type of art programmes are best suited to the particular needs of schools at the present time.

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Milieux: School Situations

These form part of the background to the testing procedures and reflect certain differences in the administration of the schools concerned.

Art-based programme: F.A.C.E.

In spite of the fact that ample warning had been given and mutually suitable times arranged in advance for the project work, organization at F.A.C.E. was poor. The children were pulled from classes more or less at the last minute prior to participation. In particular, the 13 and 14 year old students seemed to resent this and, initially, did not wish to enter fully into the tasks they were assigned to do. This was probably exaggerated by the fact that I saw these children in the afternoon, the second task in each case being their last effort of the day. It also occurred to me that, because of the alternate nature of this school, it fell prey to visits by a host of educational researchers such as myself. I do not know how many such investigators visit F.A.C.E. but the older children displayed some difficulty in taking (yet another) project seriously. This is a subjective view and may reflect my initial response to the school and its facilities.

The noise level was high and it remained so throughout the time I spent there. The building, or at least what I saw of it, was filthy and dilapidated. It seemed to me that these factors must have had an inevitable effect on both the approach to school work and the ultimate calibre of that work. However teachers and students alike

seemed to be coping, making the best of what I would have called a bad situation. Moreover, on a personal level, the children were open and friendly, characteristics most noticeable in the younger ones, and there was no doubt that the older students, with few exceptions, seemed to be mature and responsible.

Regular programme: Meadowbrook/Lachine

At the time when this project was initiated, I had been a teacher at Lachine High School for many years. I was also fairly cogniscent of the pedagogical philosophy which existed at Meadowbrook Elementary School. Both Meadowbrook and Lachine are much more structured schools than F.A.C.E. and, as can be imagined, were reasonably quiet and orderly. Both buildings were clean and well-maintained and the facilities generally much more amenable.

So far as the project was concerned, the greatest single contrast was to be found at Meadowbrook. The whole situation at this school was extremely well organised. Lists had been prepared and the children knew well in advance that they were to be involved in an art project. As was the case with the younger children at F.A.C.E., these students displayed considerable excitement about their participation. The older students, in the high school, accepted it as a pleasant diversion from more mundane matters. They had the advantage of being familiar with me as a teacher in the school, although none of them were in any of my classes at the time.

## Appendix B

Illustrations: Examples of work

On the following pages, examples can be seen of students' work completed from each type of stimulus from both scholastic backgrounds, i.e. Art-based programme = F.A.C.E.

Regular programme = Meadowbrook/Lachine

The illustrations represent examples of works which were awarded scores of 1 - Poor, 3 - Good, and 5 - Exceptional. Where these categories did not apply to the works of any given group of students, the relevant scores for the three pieces of work are indicated. Thus, in the case of the still-life drawings from the 13 and 14 year old students at F.A.C.E., where all works were judged as either 2 - Fair or 3 - Good, one Fair example and two Good examples are shown.



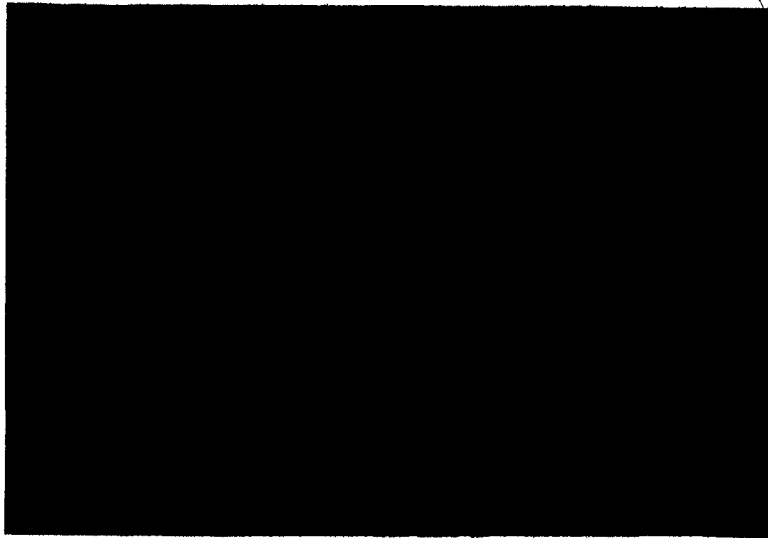
Appendix B

Still-life drawings

Age 10 and 11

Art-based programme

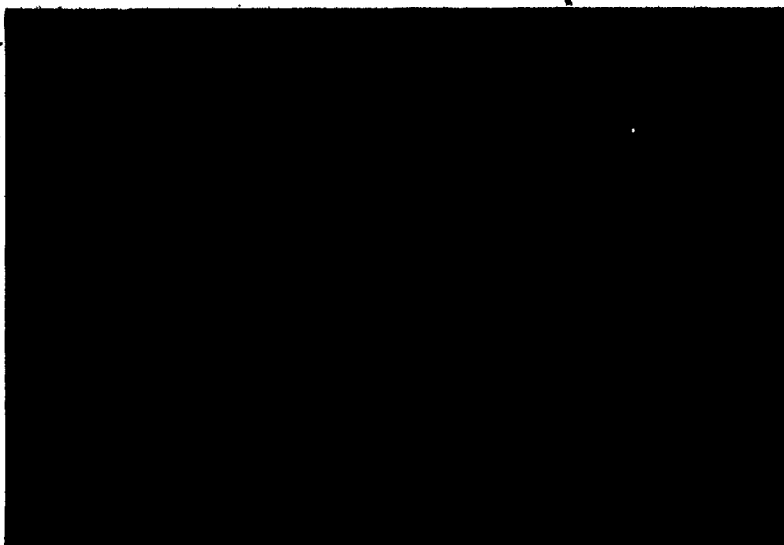
1 - Poor



3 - Good



4- Very Good



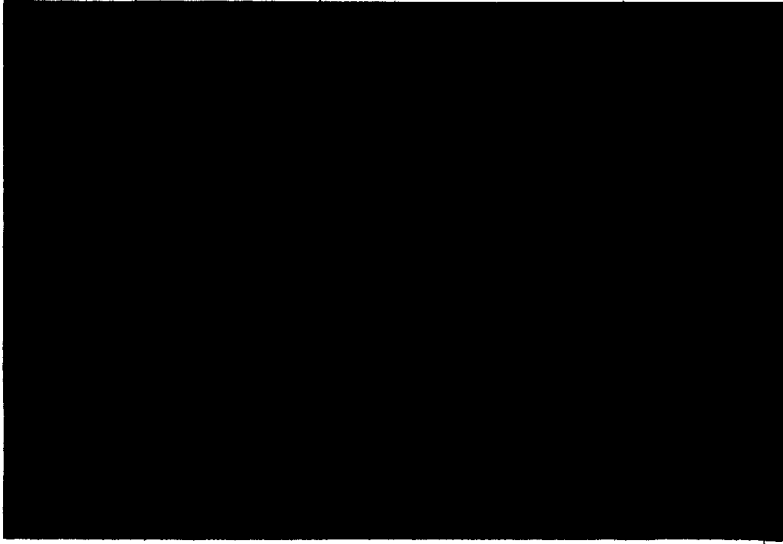
Appendix B

Still-life drawings

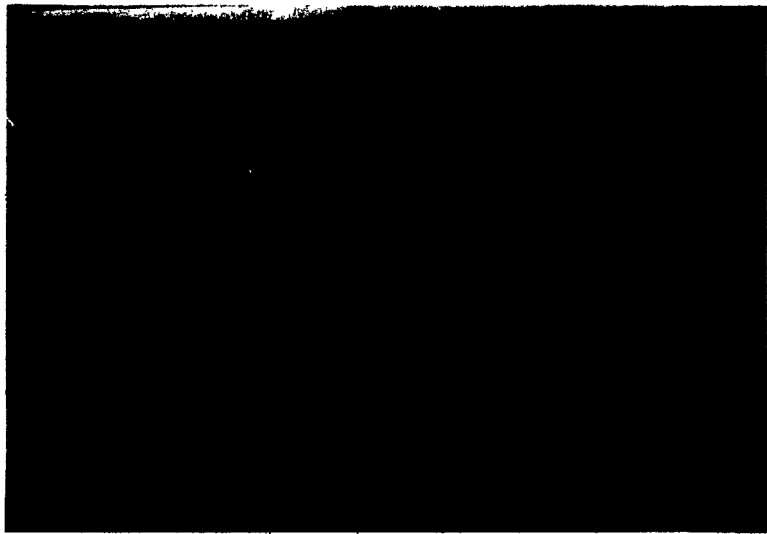
Age 10 and 11

Regular programme

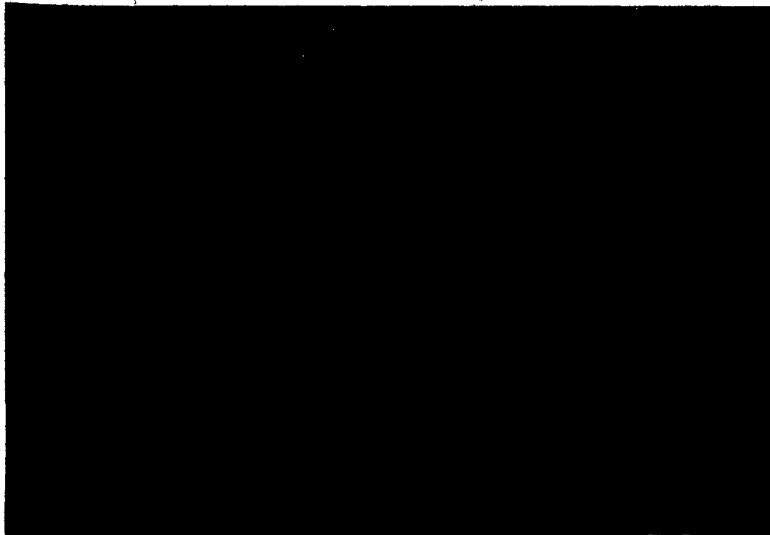
1 - Poor



3 - Good



5 - Exceptional



Appendix B

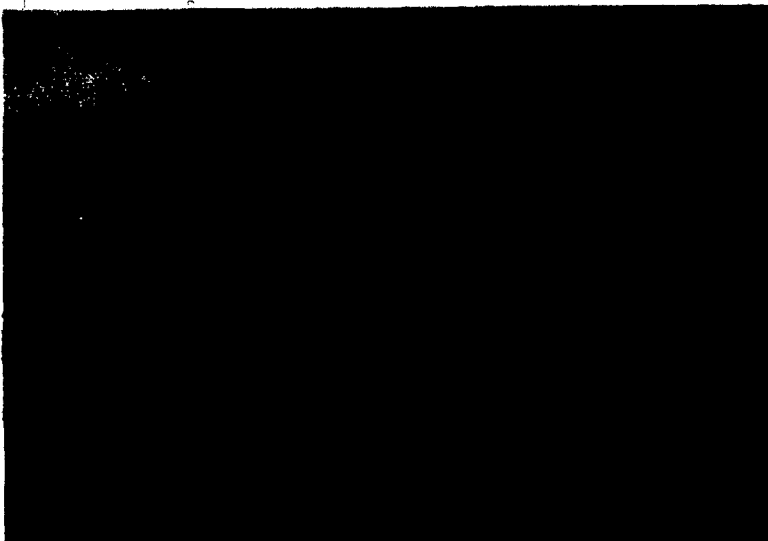
Photograph drawings

Age 10 and 11

Art-based programme



1 - Poor



3 - Good



5 - Exceptional

Appendix B  
Photograph drawings  
Age 10 and 11  
Regular programmes

1 - Poor



3 - Good



5 - Exceptional



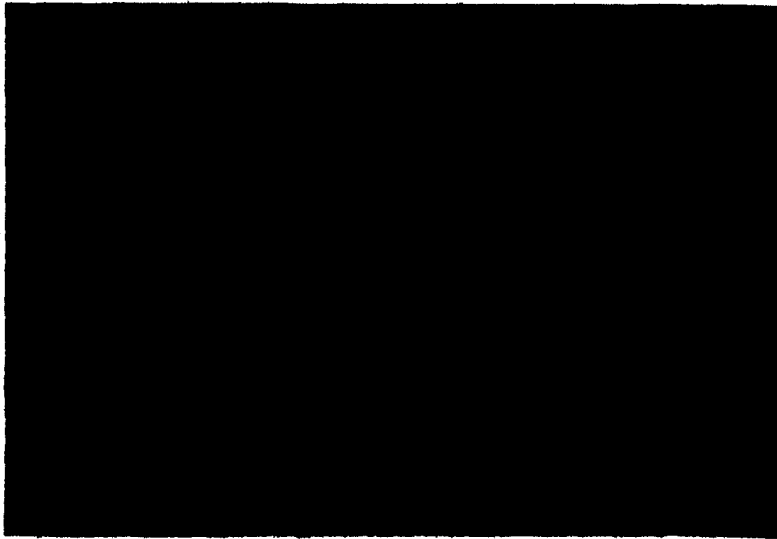
Appendix B

Text paintings

Age 10 and 11

Art-based programme

1 - Poor



3 - Good



5 - Exceptional



Appendix B

Text paintings

Age 10 and 11

Regular programme

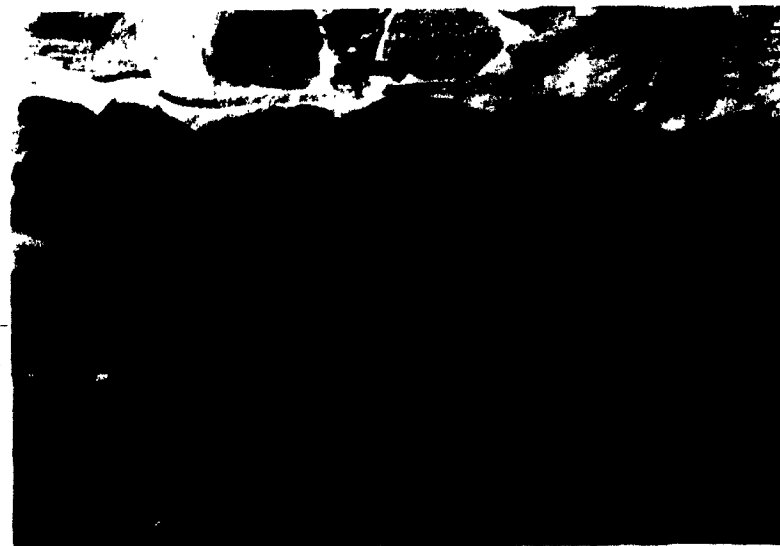
1 - Poor



3 - Good



5 - Exceptional



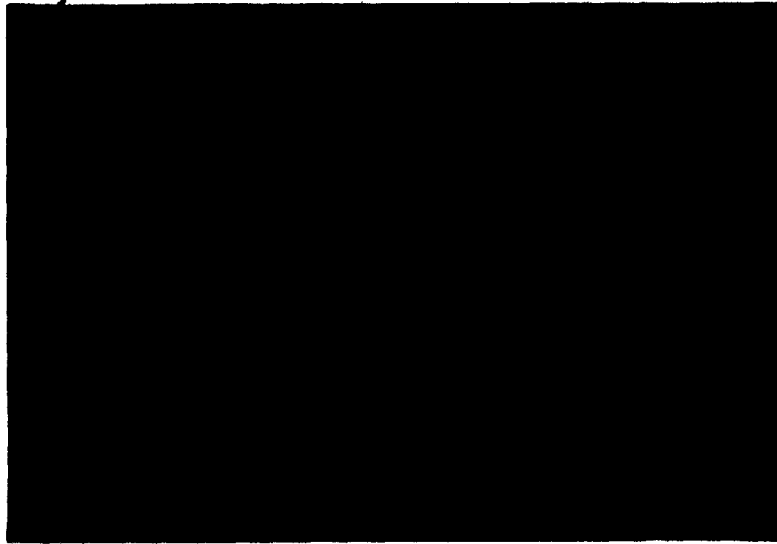
Appendix B

Film paintings

Age 10 and 11

Art-based programme

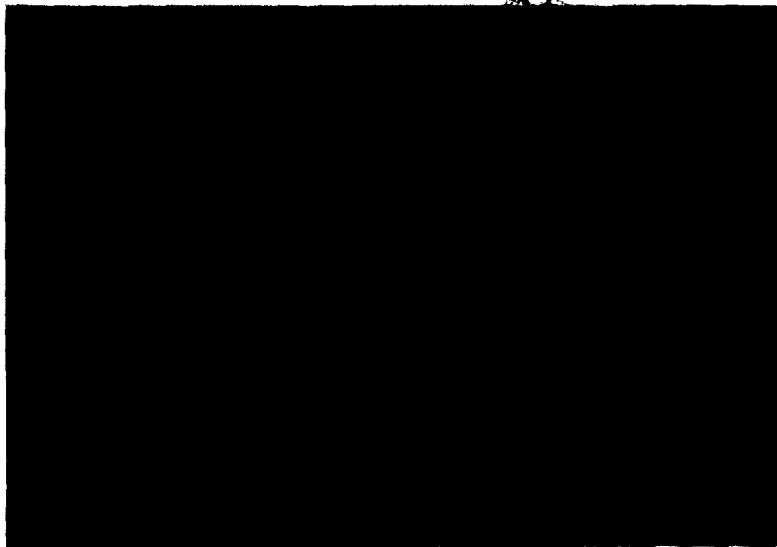
1 - Poor



3 - Good



4 - Very good



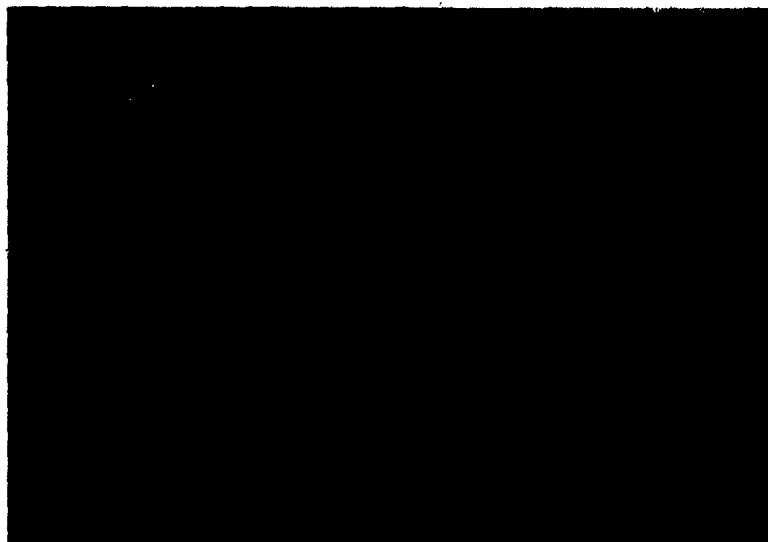
Appendix B

Film paintings

Age 10 and 11

Regular programme

1 - Poor



3 - Good



5 - Exceptional





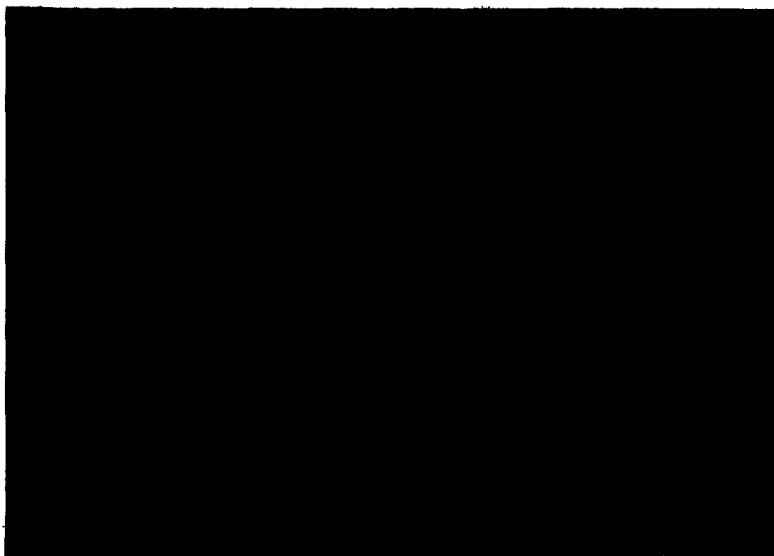
Appendix B

Still-life drawings

Age 13 and 14

Art-based programme

2 - Fair



3 - Good



3 - Good



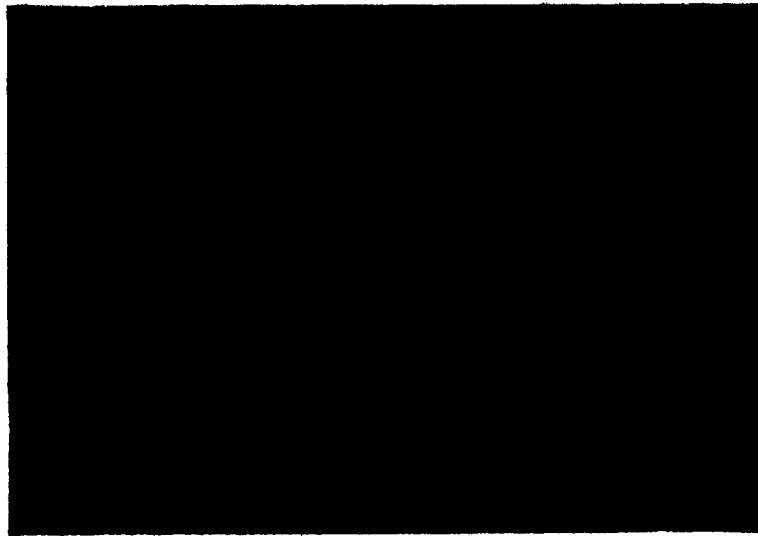
Appendix B

Still-life drawings

Age 13 and 14

Regular programme

1 - Poor



3 - Good



5 - Exceptional



Appendix B

Photograph drawings

Age 13 and 14

Art-based programme

1 - Poor



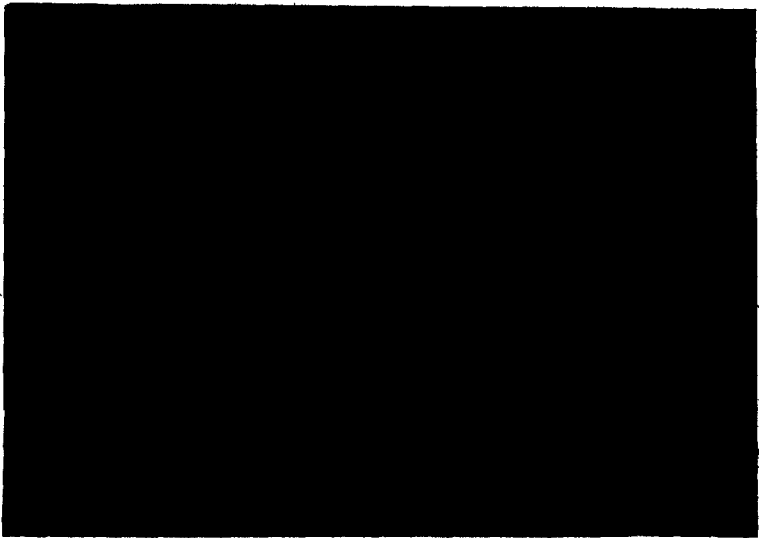
3 - Good



5 - Exceptional



Appendix B  
Photograph drawings  
Age 13 and 14  
Regular programme



1 - Poor



3 - Good



4 - Very good

COLOURED PAPER  
PAPIER DE COULEUR

Appendix B

Text paintings

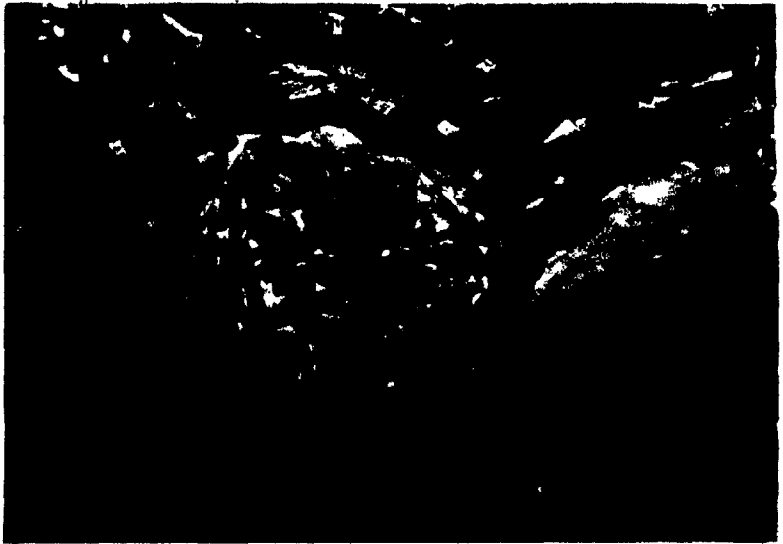
Age 13 and 14

Art-based programme

1 - Poor



3 - Good



5 - Exceptional



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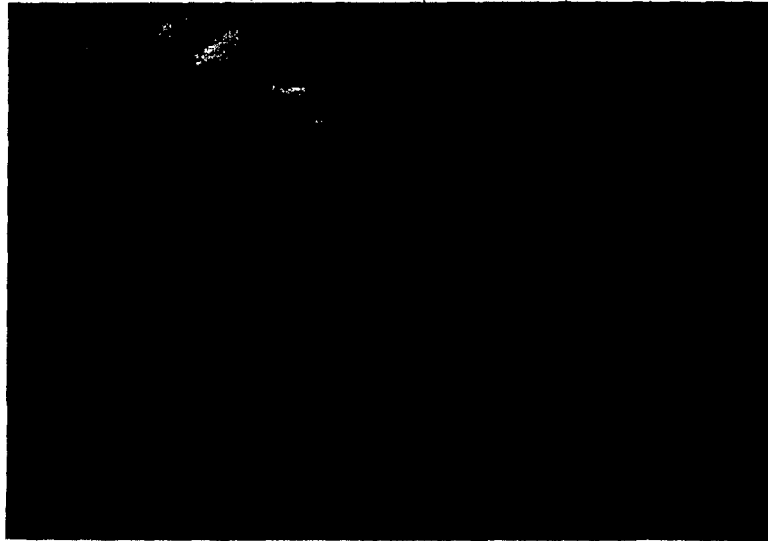
Appendix B

Text paintings

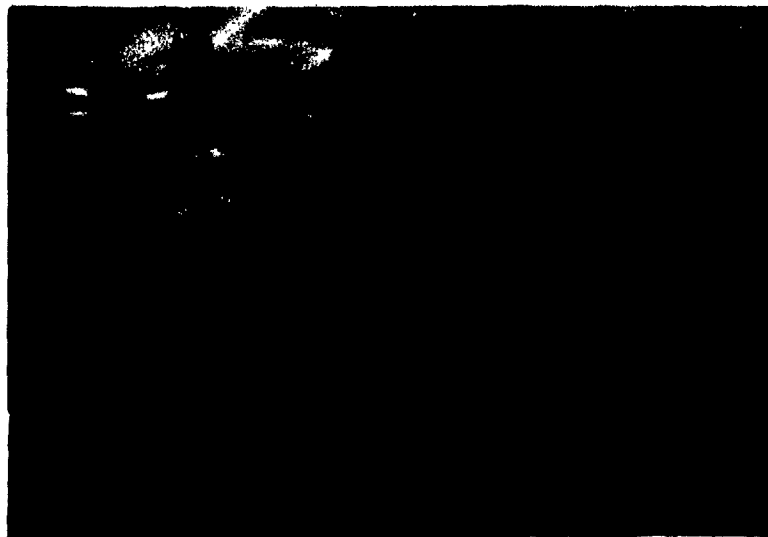
Age 13 and 14

Regular programme

1 - Poor



2 - Fair



3 - Good



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Appendix B

Film paintings

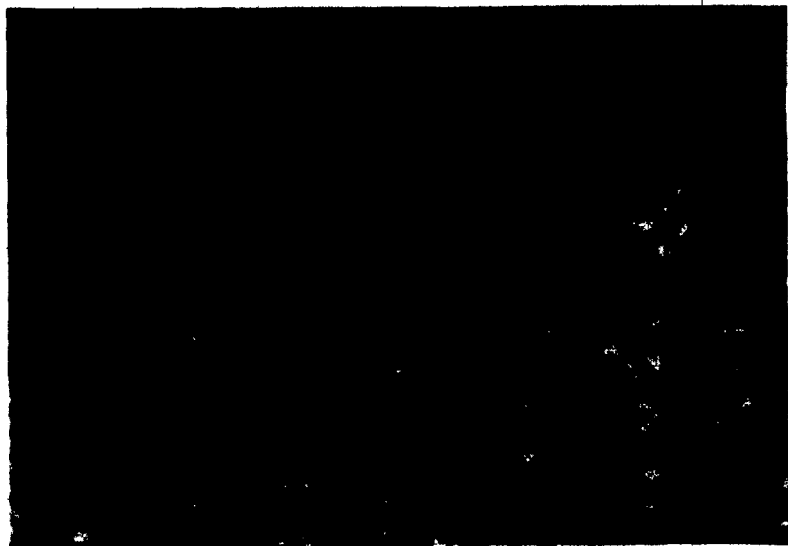
Age 13 and 14

Art-based programme

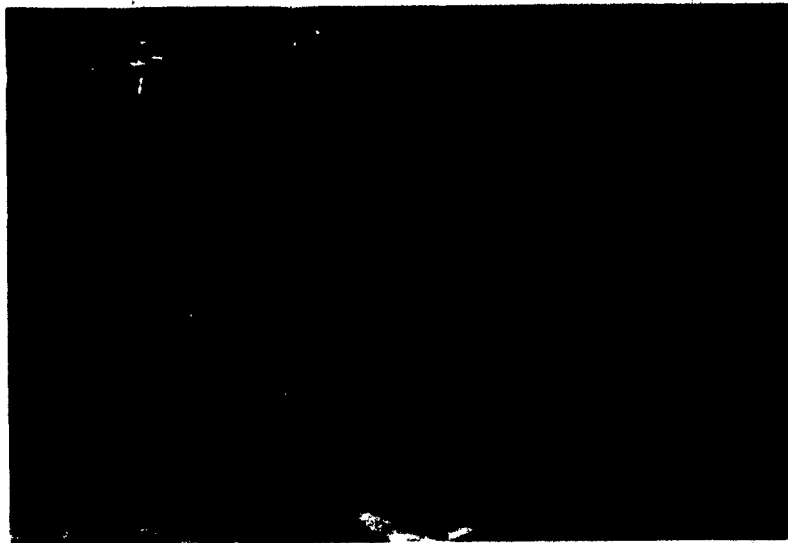
2 - Fair



3 - Good



5 - Exceptional



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PAPIER DE COULEUR

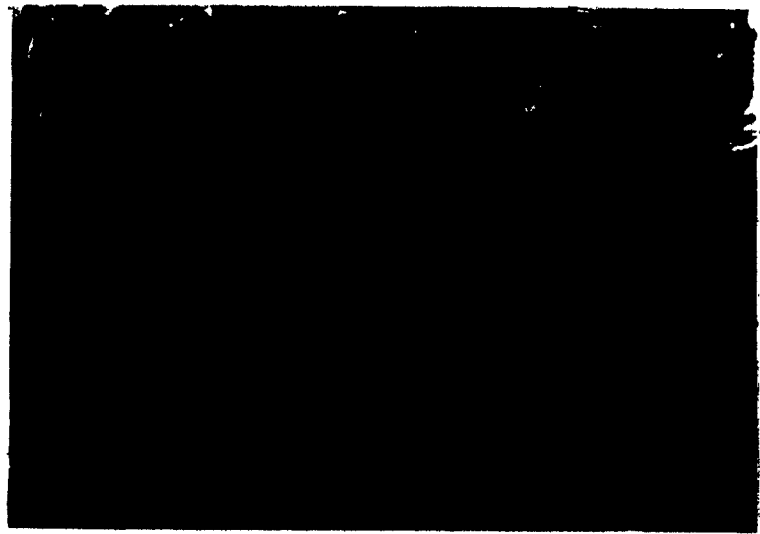
Appendix B

Film paintings

Age 13 and 14

Regular programme

1 - Poor



3 - Good



5 - Exceptional



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## Appendix C

Subject Identification Tables

The following tables outline the distribution of subjects by group and contain the statistical information on which the results of the study are based.

Appendix C                      Subject Identification Tables

Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing              PD - Photograph drawing

TP - Text painting                              FP - Film painting

Group A: Art-based programme / Tasks SD and TP / Age 10 and 11

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
61	F	11	3	SD	1
				TP	4
62	F	11	2	SD	3
				TP	5
63	M	10	3	SD	3
				TP	5
64	M	11	3	SD	4
				TP	5
65	M	11	2	SD	3
				TP	4
71	M	10	3	SP	-
				TP	5
72	M	11	1	SD	2
				TP	1
73	F	10	2	SD	4
				TP	3
74	F	11	3	SD	4
				TP	3
75	F	11	2	SD	3
				TP	3

Scholastic aptitude / I.Q.: 1 - Low; 2 - Normal, 3 - High

Tasks: SD - Still-life drawing PD - Photograph drawing

TP - Text painting FP - Film painting

Group B: Art-based programme / Tasks PD and FP / Age 10 and 11

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
51	M	11	1	PD	2
				FP	3
52	M	11	2	PD	3
				FP	2
53	F	10	3	PD	3
				FP	4
54	F	11	3	PD	3
				FP	2
55	F	11	2	PD	1
				FP	1
31	F	10	2	DP	2
				FP	1
32	F	11	2	PD	1
				FP	1
33	M	11	1	PD	1
				FP	2
34	M	10	3	PD	5
				FP	3
35	M	11	2	PD	2
				FP	2

Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing PD - Photograph drawing

TP - Text painting FP - Film painting

Group C: Art-based programme / Tasks SD and TP / Age 13 and 14

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
01	F	13	2	SD	2
				TP	2
02	F	14	2	SD	2
				TP	3
03	M	13	2	SD	3
				TP	3
04	M	13	2	DS	3
				TP	4
05	M	14	3	SD	3
				TP	1
21	F	14	3	SD	3
				TP	3
22	F	14	2	SD	2
				TP	4
23	F	13	1	SD	2
				TP	5
24	M	13	3	SD	2
				TP	3
25	M	14	2	SD	3
				TP	3

Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing      PD - Photograph drawing

TP - Text painting                      FP - Film painting

Group D: Art-based programme / Tasks PD and FP / Age 13 and 14

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
56	M	14	3	PD	5
				FP	3
57	M	13	2	PD	1
				FP	3
58	F	14	1	PD	2
				FP	2
59	F	14	2	PD	3
				FP	5
60	F	13	2	PD	5
				FP	5
76	M	14	3	PD	3
				FP	-
77	F	13	3	PD	3
				FP	5
78	M	13	2	PD	3
				FP	3
79	F	13	2	PD	2
				FP	3
80	M	14	2	PD	5
				FP	3

Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing      PD - Photograph drawing

TP - Text painting      FP - Film painting

Group E: Regular Programme / Tasks SD and TP / Age 10 and 11

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
36	M	10	1	SD	1
				TP	5
37	M	11	3	SD	2
				TP	3
38	F	11	2	SD	3
				TP	3
39	F	10	2	SD	2
				TP	2
40	M	11	3	SD	4
				TP	1
41	F	11	1	SD	1
				TP	2
42	F	11	3	SD	3
				TP	3
43	F	11	2	SD	5
				TP	3
44	M	10	1	SD	1
				TP	2
45	F	11	2	SD	4
				TP	2

Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing PD - Photograph drawing

TP - Text painting FP - Film painting

Group F: Regular programme / Tasks PD and FP / Age 10 and 11

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
06	M	11	3	PD	2
				FP	3
07	F	11	3	PD	2
				FP	5
08	M	10	3	PD	5
				FP	2
09	M	11	2	PD	3
				FP	4
10	F	10	2	PD	2
				FP	1
16	M	11	2	PD	5
				FP	4
17	F	11	2	PD	1
				FP	4
18	M	10	1	PD	3
				FP	2
19	M	11	1	PD	3
				FP	2
20	F	11	1	PD	1
				FP	3

Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing      PD - Photograph drawing

TP - Text painting      FP - Film painting

Group G: Regular programme / Tasks SD and TP / Age 13 and 14

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
11	M	13	1	SD	1
				TP	1
12	M	13	1	SD	2
				TP	3
13	M	14	2	SD	2
				TP	2
14	M	13	3	SD	5
				TP	1
15	F	13	2	SD	4
				TP	3
66	F	14	3	SD	3
				TP	2
67	F	14	3	SD	4
				TP	2
68	F	13	2	SD	2
				TP	2



Scholastic aptitude / I.Q.: 1 - Low, 2 - Normal, 3 - High

Tasks: SD - Still-life drawing      PD - Photograph drawing

TP - Text painting      FP - Film painting

Group H: Regular programme / Tasks PD and FP / Age 13 and 14

Subject Identification Number	Sex	Age	Scholastic Aptitude / I.Q.	Task	Score
26	F	13	2	PD	2
				FP	5
27	F	13	2	PD	1
				FP	3
28	F	14	2	PD	4
				FP	4
29	F	13	2	PD	1
				FP	4
30	M	13	3	PD	2
				FP	2
46	M	14	1	PD	4
				FP	1
47	M	14	3	PD	3
				FP	1
48	M	13	2	PD	3
				FP	3

## Appendix D

Tables of Comparisons

The following tables display comparisons between the tasks, the groups, and the age levels involved in the study. The scores are those from 1 to 5 awarded by the judges. Numbers appearing in the tables refer to the number of students achieving that score in any appropriate category or group.

## Appendix D

Tables of comparisons  
Between Still-life drawings  
and Photograph drawings

## Tables A

Regular programme

		<u>Score</u>				
		1	2	3	4	5
Age 10 and 11	Still-life drawings	3	2	2	2	1
	Photograph drawings	2	3	3	-	2

Regular programme

		<u>Score</u>				
		1	2	3	4	5
Age 13 and 14	Still-life drawings	1	3	1	2	1
	Photograph drawings	2	2	2	2	-

Art-based programme

		<u>Score</u>				
		1	2	3	3	3
Age 10 and 11	Still-life drawings	1	1	4	3	-
	Photograph drawings	3	3	3	-	1

Art-based programme

		<u>Score</u>				
		1	2	3	4	5
Age 13 and 14	Still-life drawings	-	5	5	-	-
	Photograph drawings	1	2	4	-	3

## Appendix D

Tables of comparisons  
Between text paintings  
and Film paintings

## Tables B

Regular programme

Age 10 and 11

	<u>Score</u>				
	1	2	3	4	5
Text paintings	1	4	4	-	1
Film paintings	1	3	2	3	1

Regular programme

Age 13 and 14

	<u>Score</u>				
	1	2	3	4	5
Text paintings	2	4	2	-	-
Film paintings	2	1	2	2	1

Art-based programme

Age 10 and 11

	<u>Score</u>				
	1	2	3	4	5
Text paintings	1	-	3	2	4
Film paintings	3	4	2	1	-

Art-based programme

Age 13 and 14

	<u>Score</u>				
	1	2	3	4	5
Text paintings	1	1	5	2	1
Film paintings	-	1	5	-	3

Appendix D

Table of comparisons

Tables C

Between the 4 tasks (SD, PD, TP, FP)

Regular programme: Age 10 and 11 and Age 13 and 14

Age 10 and 11

Score

	SD	PD	TP	FP
1	3	2	1	1
2	2	3	4	3
3	2	3	4	2
4	2	-	-	3
5	1	2	1	1

Age 13 and 14

Score

	SD	PD	TP	FP
1	1	2	2	2
2	3	2	4	1
3	1	2	2	2
4	2	2	-	2
5	1	-	-	1

SD - Still-life drawing

TP - text painting

PD - Photograph drawing

FP - Film painting

## Appendix D

Tables of comparisons

## Tables D

Between the 4 tasks (SD, PD, TP, FP)

Art-based programme: Age 10 and 11 and Age 13 and 14

Age 10 and 11

Score

	SD	PD	TP	FP
1	1	3	1	3
2	1	3	-	4
3	4	3	3	2
4	3	-	2	1
5	-	1	4	-

Age 13 and 14

Score

	SD	PD	TP	FP
1	-	1	1	-
2	5	2	1	1
3	5	4	5	5
4	-	-	2	-
5	-	3	1	3

SD - Still-life drawing

TP - Text painting

PD - Photograph drawing

FP - Film painting

## Appendix D

Tables of comparisons

## Tables E

Between the 4 tasks (SD, PD, TP, FP)  
Age 10 and 11 and Age 13 and 14 combined

Regular programme

Score

	SD	PD	TP	FP
1	4	4	3	3
2	5	5	8	4
3	3	5	6	4
4	4	2	-	5
5	2	2	1	2

Art-based programme

Score

	SD	PD	TP	FP
1	1	4	2	3
2	6	5	1	5
3	9	7	8	7
4	3	-	4	1
5	-	4	5	3

SD - Still-life drawing

TP - Text painting

PD - Photograph drawing

FP - Film painting

Tables of comparisons  
 Between Age 10 and 11 and Age 13 and 14 in the Regular programme  
 Scores for the 4 tasks (SD, PD, TP, FP)

		<u>Score</u>				
		1	2	3	4	5
<u>Still-life drawing</u>	Age 10 & 11	3	2	2	2	1
	Age 13 & 14	1	3	1	2	1

		<u>Score</u>				
		1	2	3	4	5
<u>Photograph drawing</u>	Age 10 & 11	2	3	3	-	2
	Age 13 & 14	2	2	2	2	-

		<u>Score</u>				
		1	2	3	4	5
<u>Text paintings</u>	Age 10 & 11	1	4	4	-	1
	Age 13 & 14	2	4	2	-	-

		<u>Score</u>				
		1	2	3	4	5
<u>Film paintings</u>	Age 10 & 11	1	3	2	3	1
	Age 13 & 14	2	1	2	2	1



Appendix D

Tables G

Tables of comparisons  
Between Age 10 and 11 and Age 13 and 14 in the Art-based programme  
Scores for the 4 tasks (SD, PD, TP, FP)

Score

	1	2	3	4	5
<u>Still-life drawings</u> Age 10 & 11	1	1	4	3	-
Age 13 & 14	-	5	5	-	-

Score

	1	2	3	4	5
<u>Photographs drawings</u> Age 10 & 11	3	3	3	-	1
Age 13 & 14	1	2	4	-	3

Score

	1	2	3	4	5
<u>Text paintings</u> Age 10 & 11	1	-	3	2	4
Age 13 & 14	1	1	5	2	1

Score

	1	2	3	4	5
<u>Film paintings</u> Age 10 & 11	3	4	2	1	-
Age 13 & 14	-	1	5	-	3

Between the Regular programme and the Art-based programme at Age 10 and 11: Scores for the 4 tasks (SD, PD, TP, FP)

		<u>Score</u>				
		1	2	3	4	5
<u>Still-life drawings</u>	Regular	3	2	2	2	1
	Art-based	1	1	4	3	-

		<u>Score</u>				
		1	2	3	4	5
<u>Photograph drawings</u>	Regular	2	3	3	-	2
	Art-based	3	3	3	-	1

		<u>Score</u>				
		1	2	3	4	5
<u>Text paintings</u>	Regular	1	4	4	-	1
	Art-based	1	-	3	2	4

		<u>Score</u>				
		1	2	3	4	5
<u>Film paintings</u>	Regular	1	3	2	3	1
	Art-based	3	4	2	1	-

Between the Regular programme and the Art-based programme at Age 13 and 14: Scores for the 4 tasks (SD, PD, TP, FP)

		Score				
		1	2	3	4	5
<u>Still-life drawings</u>	Regular	1	3	1	2	1
	Art-based	-	5	5	-	-

		Score				
		1	2	3	4	5
<u>Photograph drawings</u>	Regular	2	2	2	2	-
	Art-based	1	2	4	-	3

		Score				
		1	2	3	4	5
<u>Text paintings</u>	Regular	2	4	2	-	-
	Art-based	1	1	5	2	1

		Score				
		1	2	3	4	5
<u>Film paintings</u>	Regular	2	1	2	2	1
	Art-based	-	1	5	-	3

## Appendix-D

Tables of comparisons Tables J

Between the Regular programme and the Art-based programme, Age 10 and 11 and Age 13 and 14 combined  
Scores for the 4 tasks (SD, PD, TP, FP)

		<u>Score</u>				
		1	2	3	4	5
<u>Still-life drawings</u>	Regular	4	5	3	4	2
	Art-based	1	6	9	3	-

		<u>Score</u>				
		1	2	3	4	5
<u>Photographs drawings</u>	Regular	4	5	5	2	2
	Art-based	4	5	7	-	4

		<u>Score</u>				
		1	2	3	4	5
<u>Text paintings</u>	Regular	3	8	6	-	1
	Art-based	2	1	8	4	5

		<u>Score</u>				
		1	2	3	4	5
<u>Film paintings</u>	Regular	3	4	4	5	2
	Art-based	3	5	7	1	3

## Regular programme and Art-based programme combined

Age 10 and 11

Score	SD	PD	TP	FP
1	4	5	2	4
2	3	6	4	7
3	6	6	7	4
4	5	-	2	4
5	1	3	5	1

Age 13 and 14

Score	SD	PD	TP	FP
1	1	3	3	2
2	8	4	5	2
3	6	6	7	7
4	2	2	2	2
5	1	3	1	4

SD - Still-life drawing

PD - Photograph drawing

TP - Text painting

FP - Film painting

## Regular programme and Art-based programme combined

Age 10 and 11 and  
Age 13 and 14 combined

Score

	SD	PD	TP	FP
1	5	8	5	6
2	11	10	9	9
3	12	12	14	11
4	7	2	4	6
5	2	6	6	5

SD - Still-life drawing

PD - Photograph drawing

TP - Text painting

FP - Film painting