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ABSTRACT

A research project investigated the extent to which children's visual awareness and visual literacy were developed through photography. Thirty-four elementary school students were provided with Polaroid "Big Swinger" cameras; they were given one roll of film per day for eight weeks and allowed to photograph whatever they liked. After three weeks the pupils were supplied with a series of art reproductions and professional photographs to serve as stimuli. A random sample of the final total of 3,480 pictures taken was analyzed in terms of subject matter, style, theme, and technical competence. Results indicated that people were the chief subject matter of the snapshots and that there was little change in this factor over the duration of the project. However, the pictures did change in style and theme after the stimuli were presented, indicating that the children sought new ways to use their cameras. In addition, technical competence with the camera increased. It was concluded that experiences with the medium of photography promoted visual awareness. (Author/PB)

"the tree looked lonely so I took its picture": visual awareness in children's photography

by V. Young and E. N. Wright

Report no. 117
Research Department • The Board of Education for the City of Toronto

"The Tree Looked Lonely ... So I Took Its Picture"

Visual Awareness in Children's Photographs

Vivienne Young
E. N. Wright

#117

September, 1973.

Preface

The text in this report includes the history of this project but it does not name the people who worked on Phase I -- Louis Shore, Director of the Art Department worked with Dr. Seymour Trieger, who was then Research Associate, in the development of this project. The over-all direction of the project was Dr. Trieger's responsibility; Dorothy Trieger was the project's Research Assistant and was responsible for carrying out the many activities which made the first report, a film, possible, and for leaving the data organized so that this second phase could be done.

Dr. Trieger's resignation and staff reductions together resulted in the temporary stoppage of further analysis. Although a continuation of the project with other pupils was not financially possible, it seemed that more work with the photographs was warranted and that an attempt should be made to prepare a written report. The responsibility for directing this aspect of the project became mine but the credit for this analysis and report belongs to Vivienne Young who had the most difficult task of starting into the raw data without any background. Dorothy Trieger, Seymour Trieger and Louis Shore were all most helpful in providing her with background information and of course this report would not have been possible without their prior work.

E. M. WRIGHT,
Director of Research.

Credits: Special thanks are due to --

The Polaroid Corporation
Canadian General Electric Co. Ltd.
Sylvania Electric Canada Ltd.

for their technical and material assistance in the project, and to Tove Rasmussen for the cover design.

Foreword

The nature of visual awareness is highly subjective. It involves seeing but not only sight. It does not deal with the perceptual process itself but with the art of observation. As it will become evident, any study of this sort is severely constrained by the judgement of the author. With these considerations the author decided to present this report in the first person.

When I joined the Research Department this study was in a dormant phase. Due to fairly stringent budget reductions, a proposed extension of a study involving children's photography had been shelved. Mounted neatly in two huge photographic binders was the amassed collection of approximately 3,500 photographs taken by fourth grade children at Blake Street Public School. My task was to examine these photographs and to devise some way of talking about them and what they meant in terms of children's visual awareness.

Vivienne Young
Research Assistant

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INSERT

A PORTFOLIO OF 80 PHOTOGRAPHS:

a cross-section of the display
prepared for the Art Gallery

PHASE I

The project began in 1970, initiated by the Art Department and carried out by the Research Department and the Art Department. It was open-ended in design but with certain research elements. Thirty-four children, aged nine and ten, in one classroom at Blake Street Public School were given Polaroid cameras to use for a period of eight weeks. Participation in the study was entirely voluntary; in fact, one child in this class chose not to take part.

There were two reasons for selecting these children. First, Blake Street School operates on the "open" classroom concept and welcomed the opportunity of providing the students with unusual experiences. Second, the students of the school are all resident in the Blake Street Development, a support housing project of the Ontario Housing Corporation, and are therefore from a similar socio-economic background.

Polaroid "Big Swingers" were provided by the Polaroid Corporation of Canada, who also assisted in the provision of black and white film, one roll a day per child. The costs were jointly carried by the Research and Art Departments (colour film was not available for this camera, which was the cheapest Polaroid available). Both the Canadian General Electric Company and Sylvania Electric Canada Limited contributed flashbulbs which were necessary so that the cameras could be used indoors. Polaroids were chosen to provide the element of instant feedback to the children. It was felt that the interest of young children would be maintained and their "visual awareness" would develop, if they were able to see the results of their photography immediately. The Swinger cameras are simple

to operate and sturdy in construction. None of the children had had previous experience with a camera of any kind.

The children were given the cameras at school in April of 1970. A member of the Research Department was present, along with a representative of the Polaroid Corporation who instructed the children in the use of the Swinger. The children were simply asked to, "take pictures of the world as you see it." Initially film was supplied daily and then on the basis of need. The children were never compelled to take the upper limit of one full roll of pictures a day but were encouraged to take as many as they liked up to the limit. However, each child was required to keep, at school, an album of the pictures he had taken and later to lend these pictures to be copied by the Research Department.

Their teacher was highly co-operative in her efforts not to influence the children in their photography. She supervised their collection and mounting of the photos in the binders every morning, but refused to offer any value judgements other than encouragement. The Research representative visited the classroom two or three times a week to provide a further source of encouragement to the children.

After three weeks, a set of 25 art reproductions and 18 professional photographs were posted in the classroom and in the school halls, with no comment about them made to the children (see Appendix A for list of prints). Their purpose was to act as stimuli making one of my tasks an assessment of change in the children's pictures on a before/after stimuli basis. The children also were taken on several trips in the City during the eight week period to give them a chance to use their cameras in varied settings. These trips included a trip to Riverdale Zoo, Centre Island, and a walking visit to a nearby park.

At the end of the eight weeks the children were asked to return the cameras. Eight cameras were left in the school office, to be signed out by interested children and returned the following day. The resultant clamour persuaded all concerned to increase the number to eighteen cameras in the school until the end of the school year so each child could have a camera every other day. Extra film was provided.

Although the children were requested to bring every photograph they took during the eight weeks back to school so copies could be made, they did not fulfil this request. Considerable "selection" was made, and even though each child received about the same amount of film, the number of photographs returned varied greatly. Considering that each child received film sufficient to take a maximum of 464 pictures and yet the maximum number handed in was 221, it is obvious that over half of their pictures were not handed in. It was speculated at the time that the children were anxious to excell and did not return unsuccessful photographs. It was also believed that other members of the children's families used the cameras and the children realized these pictures would be unsuitable for their binders.

During this time, a motion picture record was being made. A professional cameraman was present the day the children received their cameras, on their trips, and on various locations around the Ontario Housing Project. This film, integrated with selections of the children's photographs, made up the Research Department's first report on this study. It seemed fitting to report visually what had happened. The film is entitled "From See to See" and is available through the Teaching Aids Department of the Toronto Board of Education.

Three men, eminent in visual arts, Harold Town, Albert Gilbert, and Harley Parker, were asked to review and study the photographs and give their comments. It was felt that they, as professionals, were in a better position to make value judgements indicating the children's artistic development. They were given contact sheets made from the 35 mm. copies of the photos and told that enlargements would be provided of any pictures they wished to study in more detail. The result was that they tended to identify only the outstanding pictures of which there were many, and to do one of two things: provide artistic comment as to why a picture was of high quality:

> "I think it's highly professional....Most children would never see the lyrical quality of this scene.... the implied action....the composition of this curve here, leading into this area where the figure is, and this curve repeating it -- doing the same thing.... It's a beautifully put together scene. I was very impressed with it."
>
> (Harley Parker, November, 1970)

or give subjective statements concerning the perceived message in a photograph:

> "It's very interesting in all the zoo pictures, that the major aspect of the pictures is that there's confinement. The animal is never seen as free. They are really aware of the confinement of, you know, the obliteration of freedom."
>
> (Harold Town, December, 1970)

An observation made by Gilbert about the selection process is also worth noting:

> "I had chosen one-third more of the boys' photographs than I had of the girls'....I went through them again and counted the check marks so I have chosen things that I wanted to see....."
>
> (Albert Gilbert, November, 1970)

Unfortunately, I was unable to verify if Town and Parker had had a similar tendency.

All three men were open in their comments and tremendously personal in injecting their different values and references. Some of their comments pertaining to the particular selection of shots chosen for the film were very useful in making up the sound track, together with a narration of the study, and some of the children's recorded comments. However, their comments were not suitable for further analysis of the children's development.

Just before the school year was over, the researcher who had been closely associated with the children and had taken part in the management of this study interviewed each of the children individually. Each child was asked to bring along three of his favourite shots and talk about them. These interviews were all recorded on tape and kept for future use. This was my only real "contact" with the children outside of their combined 3,480 photos. To complete the first phase of the project, enlargements were made of many of the photographs, and the Art Department displayed them along with comments by the children and the artists, in the Education Centre. The documentary film and the art show comprised Phase I of this study.

PHASE II

In reviewing the literature in the field of visual awareness my first reaction to the many articles and books I read was how subjective the concept is. The definition of "visual awareness," or "visual literacy" as it is sometimes referred to, varies from author to author. In the "Proceedings of the First National Conference on Visual Literacy," 1970, I found a definition by John L. Debes which clarified my thinking:

> "Visual literacy refers to a group of vision competencies a human being can develop by seeing at the same time he has and integrates other sensory experiences. The development of these competencies is fundamental to normal human learning. When developed, they enable a visual literate person to discriminate and interpret the visible actions, objects, and/or symbols, natural or man-made, that he encounters in his environment. Through the creative use of these competencies, he is able to communicate with others. Through the appreciative use of these competencies, he is able to comprehend and enjoy the master-works of visual communication."
>
> (Debes, 1970, p. 14)

However, visual literacy is not, to me, synonymous with visual awareness. The former implies a cultivation of the latter. My own personal definition is somewhat different. Visual awareness for me is an ability to see and give fresh meanings to our surroundings. My thoughts were very much influenced by my reading of "The Awakened Eye" by Ross Parmenter. This highly subjective and fascinating book led me to consider the stages of an emerging visual awareness. Research in this field has been proliferating recently. Many investigators have tried to assess "visual awareness" and its development in different social milieus. For a brief literature review I refer you to Appendix B.

Adults develop a certain "laissez-faire" attitude to their environment. Too much is familiar; too much is routine; resulting in

a screening off. For most adults objects take on a functional value -- a telephone is a mere utility. In contrast, a child, in the constant process of learning about his surroundings, sees the world with inexperienced eyes. His perceptions are alert and not rigid. He seeks to describe and examine because he does not know the labels. Given that each child is an individual there must be individual ways of looking at the world. The camera catches individual glimpses of an individual's life space.

In using the photos of the Blake Street children to examine their "visual awareness," there are four aspects I think are important: what a child chooses to photograph (subject matter), how he looks at it (style), what is his theme, and his ability to capture all of this (technical competence). From my examination of the photographs it is clear that many of the children did consciously deliberate in taking their pictures. At this point I would like to express my fears of sounding rather arrogant. What I shall report are my perceptions; I have no way of knowing whether they are accurate. No one but the children themselves knew what they were thinking of or what motivated them at the time they took each picture and that is likely forgotten by now.

Coding Procedures

In order to analyze the photographs I devised an initial strategy of a checklist, sub-divided into the four general areas: subject matter, style, theme and technical competence. I endeavoured to keep the rather mechanical list as general as possible, with the knowledge that the more specific it became, the less use it would be in the long run. Taking a whole and picking it to pieces usually leaves little which resembles the whole. After spending a lot of time poring over these

pictures I became aware of certain general categories of subject matter. Some of the children were wrapped up in people-taking; animals played a large part for others; some were involved in landscapes and cityscapes, and some pictures were still-life. Using this general strategy, I also developed a code system for style, theme, and competence. Two books, "A Primer of Perception," (Gordon & Wyman, 1967) and "Graphic Perception of Space" (Mulvey, 1969) gave me valuable help in solidifying this code.

The code as it presently stands assigns a number to each category. This was an arbitrary decision to facilitate later quantitative analyses. Many of the categories are polarized, i.e. under the same category there will be a presence or absence of the attribute, or the characteristics will be opposites of one another. In order for the reader to understand the code, I will present it in full only deleting the category numbers (see Figure 1).

This code is by no means comprehensive in terms of general usage. There were many other categories that were identified in the literature but these did not appear in our sample shots. Many of the categories became too specific and accordingly were discarded. Moreover, the lengthier the checklist became, the less able I became in deciding where there were overlaps. As it presently exists the code is somewhat "tailor-made" for our sample. However, I feel that adaptions and extensions can be made in order to make it appropriate for more general use.

FIGURE 1

Area	Category	Criteria
Subject Matter	Portrait (defined as presence of people predominating)	- candid (subjects in natural poses) - posed (subjects arranged)
	Landscape (elements of nature are predominate - includes seascape)	
	Cityscape (city landmarks, buildings, etc.)	
	Still-Life (defined as isolated view of inanimate objects, e.g., car)	
	Animals (defined as presence of animals predominant)	
Style	Movement	- subject in action - no perceived action
	Perceptual Field	- long (subject seen from a distance) - short (close-up view)
	Angle of View	- traditional (subject directly in front of camera) - unusual 1) bird's eye (looking down) 2) worm's eye (looking up) 3) other
	Dominance	- subject dominant in perceptual field - subject isolated in environment

FIGURE 1
(continued)

Area	Category	Criteria
Style (continued)	Framing or Closure	- absence of framing - subject framed
	Form	- wholeness (all of subject pictured) - partiality (partial view of subject) - ambiguity (subject's form is ambiguous)
	Organization	- random (no apparent organization) - grouped 1) symmetrical (subject grouped symmetrically) 2) asymmetrical (subject grouped asymmetrically)
	Contrast	- subject seen in opposition with environment e.g., car in field - light and dark contrast; subject and background in contrast
	Balance	- contrived (as in symmetrical grouping of subjects) - natural (proportions of subject elements in balance)
	Repetition	- form repetitive - line repetition

FIGURE 1
(continued)

Area	Category	Criteria
Theme	Family Life	
	School Life	
	Play and Sports	
	Animals and Pets	
	Landmarks	
	Reportage	
	Nature	
	Other	
Technical Competence	Exposure	- overexposed - underexposed - double exposure - multiple exposure
	Value	- contrast in black and white - flat greys, decreasing depth
	Texture or Surface	- glossy (fixative applied evenly) - grainy (photo is scratched and/or dull)
	Sharpness	- fuzzy - sharp

It may be apparent that the area of subject matter and theme are similar in that they are both assessments of the content of a photograph. However, subject matter is a far more overt index of content; it is objective rather than subjective and therefore a more reliable measure. Theme is a concept inferred by the viewer and thus is subjective. It is more closely related to the concept of visual awareness than is "subject matter" and is the way in which artists would prefer to see the photographs described. I coded for both areas independently in order to provide two separate classifications of content. In each of these two areas a photograph is coded only once under the several categories which are mutually exclusive.

It is apparent that style is the longest and most detailed section. This was partly by choice and partly by necessity. I considered this section to be most relevant with respect to my definition of visual awareness, and in actuality the styles of the children were so very different. Subject matter, theme and technical competence were most pertinent in evaluating the before and after stimuli stages of the project. The individual categories are for the most part easily identifiable in an individual snapshot. I have kept each category fairly straightforward in order that the code be usable by those who are not familiar with the technical terms of the art and photographic world.

After this code was devised, I applied it to the children's photographs. Since it was not feasible to examine all 3,480 shots, a sample of 20% of each child's total number of pictures handed in was chosen for analysis. Half of the sample was selected from those handed in before the appearance of the stimuli and half after. However,

eight children did not hand in any photographs after the stimuli and therefore the total number of pictures analyzed in the after category (322) is less than the total number in the before category (357). The range in the number of photos per child was great. One child handed in only 15, while another handed in 221 (these represent the extremes). The average number of photos per child is 102; the average for the 20 boys was 99 each which is slightly less than the average of 107 for the 14 girls (see Table 1).

TABLE 1

DISTRIBUTION OF PHOTOGRAPHS BY SEX AND TIME

Sex	Before S	After S	Total	$\bar{x}$
Boys (N = 20)	1485	496	1981	99
Girls (N = 14)	1022	477	1499	107
TOTAL (N = 34)	2507	973	3480	102

RESULTS

The following section on results does not include any statistical tests. It was my strong feeling that even if changes occurred in the before/after measurement of the subject areas, they could not be solely attributed to the introduction of the stimuli pictures into the children's environment. In a rigorous research design of the pre and post test nature an attempt is made to control for, or measure, the majority of other variables which could have consequences for the post test. This study was open-ended in design and not appropriate for any applied statistics. It must also be remembered that the coding system was highly subjective in nature thus making the value of tests of significant differences somewhat dubious. Sufficient information is presented in the tables to enable chi-squares to be calculated by the curious reader who will find a few of the larger differences are statistically significant.

In the analysis of subject matter, it was apparent that the majority of the children took "people pictures" (i.e. portraits). There was little change in this trend after the introduction of the stimuli; in the "Before S" category 74% of pictures coded as Portraits were posed (26% candid), while in "After S" 62% were posed (38% candid). In the taking of still-life pictures, there was an apparent increase after the introduction of the stimuli (3% to 10%). In the other categories of subject matter there was little or no difference (see Table 2).

The stimuli consisted of 25 reproductions of paintings and 18 photos (the Reinhold Visuals, see Appendix A). Half of these included people, three-quarters of the people in the paintings were posed,

one-quarter of the photographs of people were posed. One-quarter (11) of all the stimuli were "still life" and nine of the eleven were photographs. The reader may be tempted to draw some inferences about causality; however, it is well to remember that the changes shown in Table 2 are all modest.

TABLE 2

SUBJECT MATTER

	Before S N = 357	After S N = 322
Portrait	72%	65%
Cityscape	12%	14%
Landscape	5%	5%
Still-Life	3%	10%
Animals	8%	6%

The analysis of the elements of style was very interesting. (Details are presented in Table 3.) Several of the children realized the camera's ability to stop action. In fact 17% of the "Before S" pictures were of children or animals in action. This increased to 28% "After S."

The majority of the children took their pictures from a traditional straightforward angle (69%), from a distance of about eight feet. There was little difference over time in perceptual field; the occurrence of long distance shots and close-ups was 20% and 16% respectively. However, the percentage of pictures taken from an unusual angle did increase from 31% to 43%. Both "bird's eye" and "worm's eye" viewpoints increased slightly "After S." There was one "bird's eye" photo included in the stimuli prints.

Under the category of dominance, there was a significant increase in the number of shots in which the subject dominated (18% to 34%). My conjecture is that this may have been due to an increasing skill on the part of the children in positioning the subject rather than an element of style. Framing definitely increased over time; 39% of the "Before S" pictures were framed while 57% were framed in the "After S" group.

TABLE 3

STYLE

	Before S N = 357		After S N = 322	
Movement				
- subject in action	17%		28%	
Perceptual Field				
- long	18%		20%	
- short	15%		16%	
Angle of View				
- unusual	19%		23%	
(bird's eye)	7%	31%	12%	43%
(worm's eye)	5%		8%	
- traditional	69%		57%	
Dominance				
- subject dominant	18%		34%	
- subject isolated	3%		10%	
Framing				
- subject framed	39%		57%	
Form				
- whole	43%		60%	
- partial	57%		40%	
- ambiguous	8%		14%	
Organization				
- random	43%		60%	
- grouped - symmetrical	29%		26%	
- asymmetrical	27%		14%	
Contrast				
- of subject	8%		14%	
- of light & dark	21%		29%	
Balance				
- natural	37%		62%	
- contrived	29%		26%	
- no balance	34%		12%	
Repetition				
- of form	38%		59%	
- of line	7%		14%	

As time went by the children seemed to be more aware of what they wanted, and didn't want, in a picture and better able to get it: wholeness of form rose from 43% to 60%. Moreover, the number of shots concerned with pure form of subject to the extent that subject matter was almost ambiguous, rose slightly from 8% to 14%.

The organization of subject matter was an intriguing aspect of style. Random organization increased over time while both types of groupings of subject matter decreased. There was little change in symmetrical grouping (29% vs. 26%); however, asymmetrical groupings dropped from 27% to 14%. There were very few instances of the subject being in contrast to the surroundings (8% "Before S," 14% "After S"). This category was actually very unique, characteristic of only a few of the children.

A natural balance in the parts of the subject matter increased from 37% to 62%. A contrived balance as in the symmetrical groupings decreased slightly to 26% from 29%. A small number of photographs seemed definitely out of balance. I was unable to decide whether this had been intentional or not. Along with the greater awareness of form came an increase in repetition of form within a photograph, i.e. many of the same thing, and an increase in the repetition of line (this was particularly evident in the many pictures at the zoo and around their apartment buildings).

In the area of theme, there were two shifts but in opposite directions. The theme of Family Life decreased from 42% in the "Before S" pictures to 2[illegible]%; however, the theme of Play increased from 1[illegible]% to [illegible] (see Table 4). It is my belief that these two sets of figures are interrelated, i.e. members of the family were photographed in play

situations after the possibilities of indoor family-type settings were exhausted. In addition the later pictures were taken in late May when children were more likely to be playing outside; furthermore "props" which indicate "play" are less apparent in indoor settings. Table 4 shows little change over time in the other five categories. In terms of the themes of the stimuli presented to the children, I felt that there was no impact because the children had expressed all these themes in their work before and there was nothing new for them to pick up. In one case, however, there was an indication that one of the stimuli prints had impressed a couple of the children. It was a picture of a picture. I coded several examples of this type of photograph as "Documentation," which includes still-life and reportage (e.g. cat has new kittens, mother gets new coat and is photographed wearing it).

TABLE 4

THEME

	Before S	After S
Family Life	42%	26%
School Life	12%	11%
Play	15%	28%
Pets and Animals	8%	7%
Buildings	11%	14%
Documentation	6%	9%
Nature	5%	5%

In general, the results of the technical competence categories showed an increasing skill with the camera and the development process (Table 5). Only a total of eight pictures in the sample were totally

uncodable due to over or underexposure (I replaced these eight when coding for other areas). Both tendencies to overexpose and underexpose decreased over time, but a relatively high proportion (35%) of the "After S" pictures were underexposed (27% were overexposed). The most obvious conclusion to me is that the children had difficulty in setting their exposures but I do not know whether this was true. There was a total of only seven double exposures in the whole sample and only one multiple exposure. These all appeared to be intentional. The value of light and dark tones was very difficult to make decisions about, especially if the picture was at all overexposed. However, with respect to subject matter, the children took a higher percentage of photos with subjects contrasting in light and dark backgrounds "After S" (28% vs. 43%). Concomitant with this came an increase in depth; therefore, the category of flatness dropped sharply from 50% to 14%.

TABLE 5

TECHNICAL COMPETENCE

	Before S	After S
Photo Uncodable	1.4%	.93%
Exposure		
- over	31%	27%
- under	44%	35%
- double	.01%	.1%
- multiple	0	.1%
Value		
- contrast	28%	43%
- flat	50%	14%
Surface		
- glossy	78%	73%
- grainy	22%	27%
Sharpness		
- fuzzy	53%	40%
- sharp	47%	60%

The children's skill in handling the camera rose over time. Of the "Before S" pictures 53% were fuzzy, in contrast to only 40% of the "After S" shots. Their skill at applying the fixative probably increased. I say "probably" since the results showed an increase in a grainy or scratchy surface and a decrease in the glossy surface texture from 78% to 73%. A great many of the photos were coded as grainy or scratched but some scratches seemed intentional and not at all by accident. A further confounding factor is that all the material available was copies of the originals. Although the copies were carefully made there is always the possibility that some of the coding reflects the quality of the copies not the originals.

CHILDREN'S DISCUSSION OF PICTURES

I had made many speculations on the above results before I turned to the taped interviews the children had had with the Research Assistant in 1970. A number of these photographs appear in Appendix C These pictures were chosen for illustrative purposes and are not to be considered as representative of the quality of the children's pictures. They are presented in the order that they are discussed in this section.

The most gratifying result of listening to the children talk about their pictures was the fact that so many of them related the aspects of preplanning their photos. One child remarked that he had asked his father to take him to the airport to take pictures of airplanes, and that he had gone to the tenth floor of the parking lot in order to get a good picture (picture 1). Another, in remonstrating himself about one of his photos, said "I should have gone closer." (This was an amusing photo of a kitten in a shoe.) (picture 2). It was evident that some of the children tried repeatedly to get a good shot -- "took six times to get a good one." They also referred to their experimentation in unusual viewpoints, "I tilted the camera to get this one" (picture 3). One boy spoke of a family picture he had taken (there were ten in his family) and the difficulty he had had posing them. His remark about the picture -- "I found a neat way to pose them." Many of the children commented with pride on their "surprise" pictures. These were usually pictures of mother or father in the kitchen caught in the process of doing chores (picture 4). A little girl referred to her wait at the zoo till the peacock "showed us the feathers" (picture 5). I was very interested in a remark by a child whose pictures were nearly all underexposed, "I like my pictures dark."

Their reasons for taking the pictures discussed in the interview were varied. One boy took a picture of a leopard "cause his eyes look fierce," (picture 6) and a girl said she took a photo of a fox because "he looked nice" (picture 7). Many said they took pictures of their friends because it was fun. One of the children who was very satisfied with his action shot of a floor hockey game, said he liked it "cause I got the puck in the air" (picture 8).

Perhaps significantly, none of the children brought any really poor shots to the interview. One girl discussed a very scratchy print but made no mention of how the scratches got there (picture 9). Another child who took a very good picture of a cage at the zoo remarked that "the chain got in the way" (picture 10). A good close-up photo by one of the boys turned out to be a self-portrait. He had held the camera at arm's length in front of himself to take it (picture 11). Another photo, which at first glance had looked posed, turned out to be a very candid shot of a brother asleep who was supposed to be minding his baby sister (picture 12).

The use of the flashbulbs was talked about in a number of interviews. Apparently the children had forgotten to take the flash packs with them when they were outdoors at dusk. Their indoor shots with flash were not satisfactory to most of them. It was evident in the analysis that the children had had problems with the flash bouncing off the white walls of their apartments.

In an interview with the children en masse the children were asked if they knew why the stimuli pictures had been put on the walls around the school. Only one child said "so we can take pictures like that." They were then asked if these pictures had given them any ideas

and a couple of comments from the children are worth mentioning. One girl said she had taken pictures of cars after she had seen the photograph of the striped Volkswagon. Another said he got the idea of taking "pictures of pictures" from the stimuli. None of the children had heard of "still-life" before and they all disclaimed taking pictures of mother and children because of the stimuli.

The teacher of this class was also interviewed. She referred to several academic improvements in some of the children. "Their artwork and written work has improved." Also, "they use their eyes more now." She felt that there was a general improvement in the language and vocabulary of the children. Above all, she was most pleased at "the feeling of unity in this class" since the project had begun.

DISCUSSION

Are children visually aware? I would say undoubtedly "yes" based on these children's photos and their comments. Experimentally, though, this project offers no conclusive results which point to an effect of the stimuli on their awareness. Edward Grady (1970) reported on his work in the use of photography with inner-city children to develop visual literacy. As part of his programme he conducted a fourth grade class on a photographic tour of areas near their school. In examining and analyzing their photographs, and in thinking about observations he had made previously, he began categorizing the photos according to "the development of the student." He set up six stages, listed below, which he describes in detail and illustrates. His paper does not however provide much concrete evidence to support the generalizability of this hypothesized developmental sequence.

1 -- familiar objects around the home: family, friends, pets. Everyone stiffly posed, with little photographic appeal or value. Later: school

2 -- candids, friends, family; better poses, more relaxed and natural, but with little depth

3 -- action/activity

4 -- inanimate objects: dolls, cars, buildings, shop windows

5 -- person/thing relationship with tension, contrasts, conflict, perception of "the decisive moment"

6 -- abstractions; emphasis on shape, form, compositional elements.

There were instances in nearly all of the children's pictures of the various types of photos occurring in Grady's schema. However, these children did not seem to have the same clear ordered progression

over time that Grady's did. Since the sampling technique took only the total of the first and last ten per cent of each child's pictures we may be missing the data that would indicate a similarity in the studies. The Blake Street children had scattered examples of all six stages in the "Before 3" category and in the "After 3" category. There was a shift from "Family Life" to "Play" (see Table 4) and Grady's later stages were less common. It is also worth thinking about the photographs most adults take in terms of these categories!

Members of the Research and Art Departments are interested in replicating this study with children from other socio-economic backgrounds. Within their limited environment the children produced many photos which can stand alone on artistic merit, while a majority seem as good technically as those produced by the average adult. Obviously similar research with other students living in various environments is needed before many conclusions can be drawn.

The following points can be made, based on the above study: over a period of eight weeks, with stimuli introduced at the end of three weeks, the children's photographs essentially did not change in terms of subject matter. Over this period their pictures changed in style and somewhat in theme, indicating to me that the children were looking for new ways to use their cameras. Their technical competence in dealing with the Polaroid camera improved. It is not possible to conclude whether these changes were due to maturation, experience in practice, the introduction of the stimuli, or any combination of these factors. It is my contention that it is possbile to conclude that these children became more visually aware through their opportunity to explore the medium of photography.

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Travers, R. M. W. The development of dynamic and static interpretations of pictures. In C. M. Williams and J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 118-127.

Viggiani, J. C. The use of photography to enhance learning in the classroom. In C. M. Williams and J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 240-246.

APPENDIX A

Art Stimuli

Art Reproductions

Picasso -- Mother and Child
Mother and Nursing Child
The Musicians
Pierrot

Cezanne -- The Card Players
Basket of Apples

Utrillo -- Montmarte

Verkerde -- Dutch Town Scene

John Marin -- Deer Isle, Maine

Mandrian -- Tableau No. 1

El Greco -- View of Toledo

Chazall -- Les Plumes en Fleurs

Hilaire -- Paddock

Mary Casset -- Young Mother Serving

Unknown -- Portrait of Boy with Dog
Portrait of Girl

Eric Sloane -- October Gleaning

Degas -- Dancers on Stage
Dancers in Pink

Goya -- Boy in Red

Miro -- Composition, 1949

Renoir -- In the Meadow

Kadinsky -- Improvisation

B. Simon -- Golden Charger

Roualt -- The Old King

Reinhold Visuals

Mother and Child

Children Climbing Rocky Cliff

Ladies Legs with Fancy Hose

Cut Glass Texture

Japanese Kite Flyers

Brass Players

Close-Up of Flowers

Intricate Tracery of Wires and Girders

Pattern of Baseball Being Thrown

Elderly Lady with Boy

African Mask

Man Sleeping in Box Car

Zebra Striped Volkswagon

Old Wooden Door

Wire Backed Chair

Cracked Concrete

Man Reading in Doorway with Suitcase

High Rise Building

APPENDIX B

A Selected Bibliography

The aim of this selected bibliography is to provide the reader with some background information on a few of the texts and articles available in the following three areas: general references, research, and coding techniques.

(a) General References -- includes literature on the role of art education and creativity, the realm of visual awareness, and the emerging field of literature on visual literacy.

(b) Research -- includes articles available on methodology and on several experimental models. There is an emphasis in the literature on the role of visual training and the growth of language in children.

(c) Coding -- a very brief synopsis of the texts which provided the basis of the code developed for this study.

General References

1. Brittain, W. L. (Ed.) Creativity and art education. Washington, D.C.: National Art Education Association, 1964.

These thirteen articles are concerned with the components of creativity in children, problems with its measurement, research findings, and experimental evidence. The role of art educators is discussed in the majority of the papers.

2. Debes, J. L. The loom of visual literacy. In C. M. Williams & J. L. Debes, (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 1-14.

This article gives an insight into the length and breadth of the emerging field of visual literacy and its relation to linguistics, philosophy, psychology and the arts. The author proposes a heirarchy of visual skills leading up to visual literacy.

3. Parmenter, R. The awakened eye. Middletown, Conn.: Wesleyan University Press, 1968.

Parmenter, in a highly subjective approach hypothesizes three stages of visual awareness: sharpened vision, heightened vision, and transfigured vision. He discusses the vision deadeners of society and suggests some practical devises for increasing one's own awareness. This book clarifies the concept of visual awareness.

Research

1. Grady, E. L. The use of photography with inner-city children to develop visual literacy. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 277-287.

   Fourth grade children from a New York ghetto were given cameras and their photos were analyzed in a subjective fashion. The author set up six stages he felt the children progressed through with their cameras. Illustrations of each stage are presented.

2. Griffith, J., & Miner, L. E. Visual literacy research guidelines. Audio-visual Instruction, May, 1972, pp. 30-35.

   This article is concerned with the importance of research design and controlled observations and statistical means of analysis. The authors point out the need for research in visual literacy and overcoming measurement problems.

3. Miner, L. E. Effects of visual stimuli on verbal behavior. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 81-91.

   An overview of research studies is presented. Miner discusses the use of visual stimuli to provoke verbal responses from children. The author contends that studies should attempt to analyze the visual stimuli before making judgements on a child's verbal output.

4. Strandberg, T. E., & Griffith, J. A study of the effects of training in visual literacy on verbal language behavior. Journal of Communication Disorders, 1969, 2, pp. 252-263.

   The language behaviour of four and five-year-old children when talking about their own photographs was examined. Their pictures were taken in three experimental conditions. Language samples from the experimental and control groups were subjected to four language measures and the results are discussed.

5. Travers, R. M. W. The development of dynamic and static interpretations of pictures. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 118-127.

   Children's perceptions of colour and black and white photographs were studied. The materials provided were relatively unambiguous representations of real situations. Children at varying grade levels from nursery to grade six saw the pictures on ten trials and their descriptions after each were recorded. Responses were categorized as correct or incorrect on number of objects named, number of instances of motion identified, and number of themes mentioned.

Research (continued)

6. Viggiani, J. C. The use of photography to enhance learning in the classroom. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman, 1970, pp. 240-246.

The author discusses the multi-sensory approach to learning and its long history in education. This article is directed to the classroom teacher and provides suggestions for equipment and supplies and their practicability in modern teaching methods.

Coding

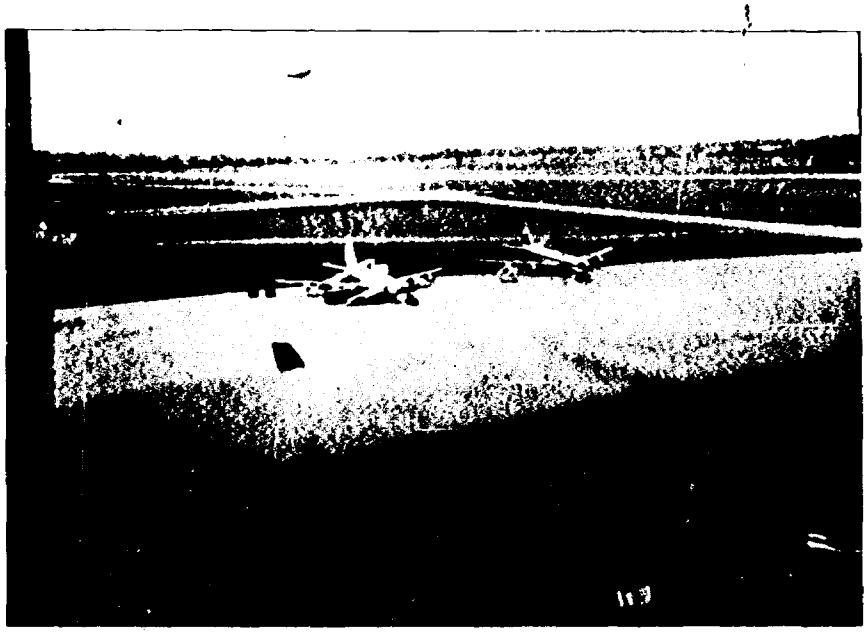
1. Gordon, S. F., & Wyman, J. D. A primer of perception. New York: Reinhold, 1967.

This book presents some elements of graphic vision pictorially rather than verbally. It is divided into four sections: the surface of objects, the perception of form, the organization and association of objects, and colour as a perceptual factor. A basic text in perceptual acuity presented in a systematic manner.

2. Mulvey, F. Graphic perception of space. New York: Reinhold, 1969.

A programmed text on the principles and effects associated with the creation of the illusion of space. Illustrated with photographs and graphics.

APPENDIX C



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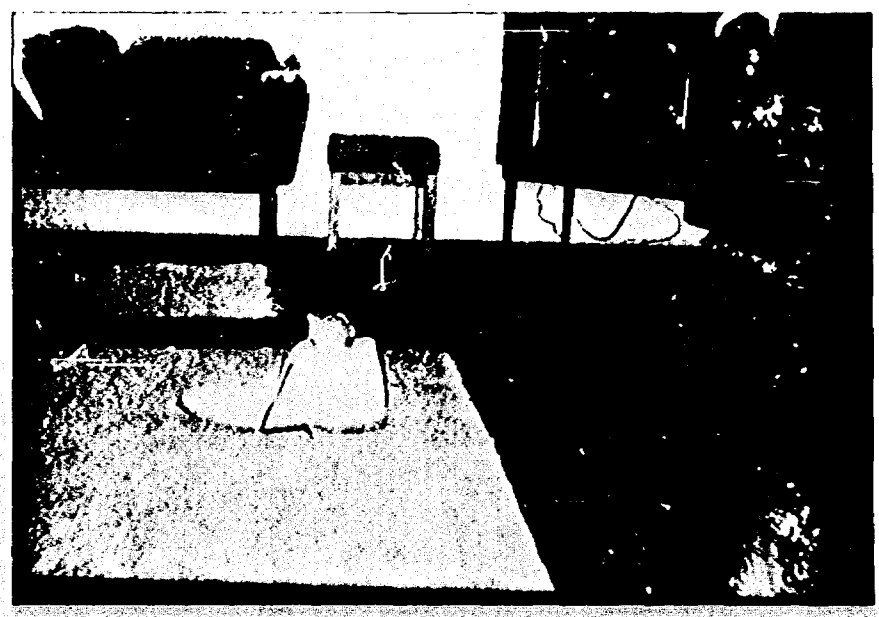

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Picture 3
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Picture 4
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Picture 5
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Picture 6
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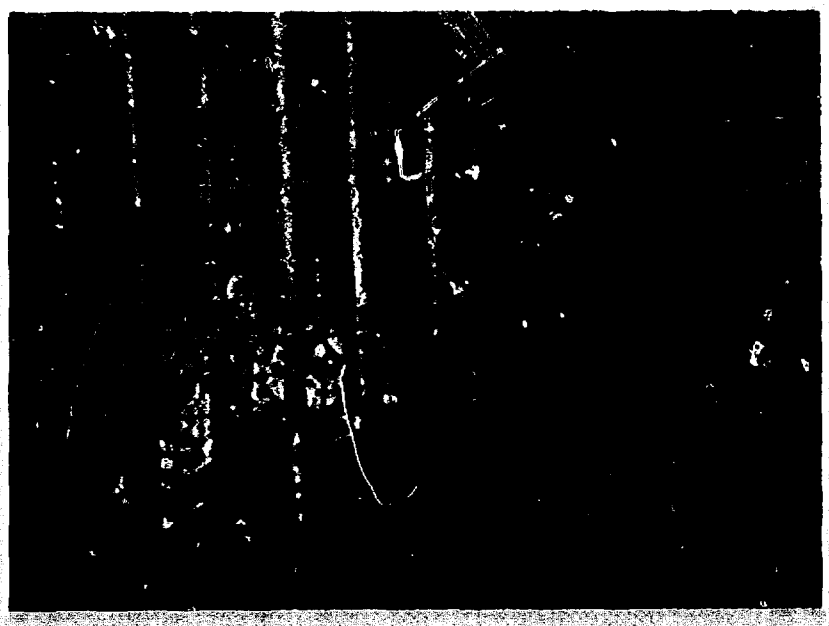

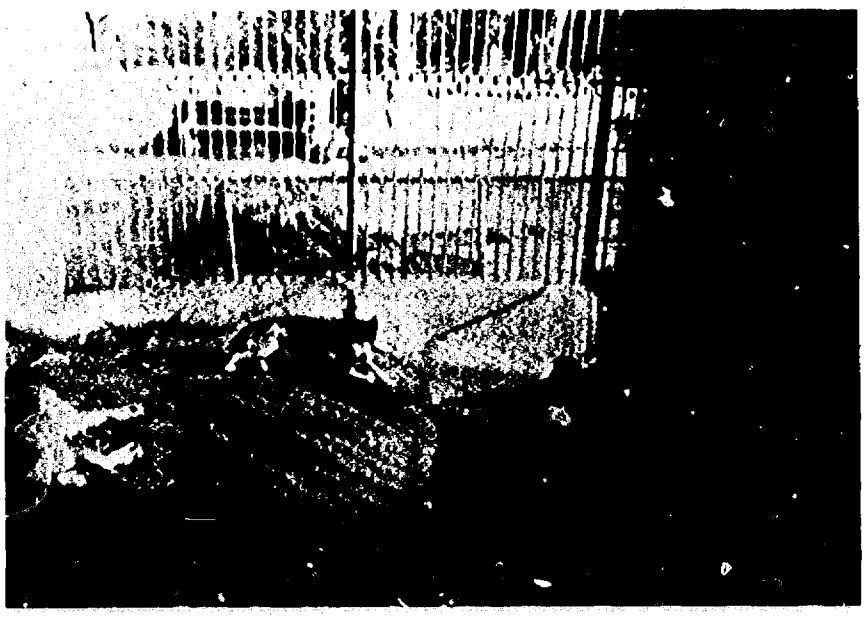

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Picture 10
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Picture 11
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Picture 12
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