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ABSTRACT

Visual literacy has been a function of human experience since the cave dwellers first created wall paintings. The contemporary definition of visual literacy extends literacy to include all the connotations of the word visual and encompasses perceptions developed from visual experience. The use of visual symbols together with written language symbols can strengthen the student's concept and thereby motivate him. It is important that the student have the opportunity to discover the enjoyment of learning with pictures he has taken himself with a camera. Three schools are listed that have existing visual literacy programs. Twenty-nine research references and a 13-item bibliography are included. (Author/DS)

What Research Says to the Teacher

Visual Literacy

by Joan M. Platt

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Joan M. Platt is the author of books and educational programs for young people. Among her books is *Young Animators*, which is concerned with creativity in film-making.

The manuscript was reviewed by Helen M. Edmonston, retired social studies teacher, Montgomery County (Maryland) Public Schools.

INTRODUCTION

Visual literacy, a term that is being heard with increasing frequency in education circles, has important and diverse applications for teachers and students alike.

In our society we are bombarded with visual information daily—movies, television, advertisements, catalogs, billboards, to name a few. Most of us, students and adults alike, are good at "reading" this language without understanding how the language works or being able to "write" it ourselves. The goal, therefore, of visual literacy programs is to develop in students the ability both to understand—*and* to express themselves in terms of—visual material, to enable them to relate visual images to meanings beyond the images themselves.

HISTORY

Although the term may have come into general use only recently, visual literacy has been a function of human experience for thousands of years. In the centuries before the invention of movable type made possible the widespread dissemination of printed books, much communication took place by means of concrete visual images. (13)* For example, it is believed that early cave paintings were a great deal more than personal artistic statements. In fact, it is doubtful that the artistic qualities we prize so highly were even noticed by the cave painters. The images, which were probably understood by an entire group, represented matters of concern to all. The animals that were depicted, often stags and bulls and mammoths, meant food and survival for the group. Even the less frequent pictures of human beings—probably hunters or sorcerers—or hands with blood on them had meaning beyond simple representation.

A more systematic means of visual communication can be seen in the hieroglyphics of ancient Egypt and the picture writing of early China. In both cultures, pictographs—stylized symbols drawn from observation of nature—were used to convey information directly. The images referred to the thing or idea being portrayed, rather than to a word that stood for the thing or idea, as was the case later when systems of writing began to be developed. The earliest hieroglyphics appeared as inscriptions on stone monuments, long before the invention of papyrus writing surfaces. In China, before the invention of paper, pictographic images were scratched first on pieces of bone, then on bronze, and later on stone.

In the European Middle Ages one sees a different form of visual communication and expression. The great cathedrals were textboks in stone of Christian theology and myth. The people of the day, most of whom could neither read nor write, were as familiar with the stories of Biblical characters portrayed on the façades, in the stained glass windows, and in the interiors of churches as contemporary people are from reading these stories. For them visual literacy was more than a matter of identifying the figures and determining by placement the relationships of

*Numbers in parentheses appearing in the text refer to the Selected Research References beginning on p. 27.

the figures to other personages in a grouping. Symbolic trappings, comparative size, and delicacy of modeling had very clear meanings to knowledgeable viewers. Sequence was represented by repetitions of figures in various positions, much as in the frames of a modern filmstrip or comic strip. Visual literacy, then, was a means of access to the essential messages of medieval European religion. The visual idioms of the day communicated to the unlettered and the lettered, the weak and the mighty, and helped establish the common basis of a culture. (12)

In Western civilization from prehistory through the Middle Ages and into the Renaissance, experts were responsible for carrying out the job of visual communication. The cave painters, for example, probably had a priestly as well as an expressive function. Their work spoke to and for the others in their small communities. The carvers of the Egyptian hieroglyphics had technical skill that not everyone had the means to imitate. The great cathedrals represented the work and vision of many persons, from the architects who conceived the overall design to the sculptors and artisans who executed the specific details. They all had in common, to some degree or other, the fact that they used a language understood by the people of their time, which only they were equipped or trained to handle. They prepared messages for a group that was visually literate in that they could read the familiar visual symbols, though they could seldom write them.

As historians have pointed out, it was after the widespread distribution of books was facilitated by post-Gutenberg print technology that education by means of the printed word on a page superseded education by means of visual images. (12) Before, when only priests and scholars had access to the few hand-lettered books available, visual literacy for the people had been necessary and had resulted in a commonality of experience. When books became more prevalent, however, the experience of a single individual reading privately became the norm. Then the total vocabulary of medieval visual literacy began to be lost to the general audience. (14)

CONTEMPORARY VISUAL LITERACY—A DEFINITION

To understand the applications of visual literacy in our technological society, it is helpful to get a sense of how it differs from verbal literacy. Visual literacy extends literacy, as it is customarily thought of, beyond the limits of recognizing and understanding the written and spoken word to include all the connotations of the word *visual*: seen, concerned with seeing, used in seeing. Visual literacy encompasses perceptions developing from visual experiences (excluding perceptions of the written word) and deals with such areas as gesture and body language, still and motion picture photography, television and videotape, industrial and advertising graphics, graphic signs and symbols. In classrooms today, as in the past, reading charts and figures and interpreting maps have called on visual-literacy skills.

The following definition was presented at a 1970 conference on visual literacy attended by both educators and film technologists:

> 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 visually 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 masterworks of visual communication. (19)*

In simpler terms, visual literacy aims at the integration of *visual perception* and *visual expression* into the total education of the human being. (1) Perception in this context refers both to the incoming material

*From the book *Proceedings of the First National Conference on Visual Literacy* edited by Clarence M. Williams and John L. Debes, III. Copyright © 1970 by Pitman Publishing Corp. Reprinted by permission of Pitman Publishing Corp.

of the physical universe—people, objects, series of events, scenes, gestures—seen through the eyes, and to the ordering and giving of meaning to that material. For example, after the sensory data have been received optically and registered in the brain, one becomes aware that hands using a slide rule have one meaning and that hands reading braille characters have another, though in both cases they are in physical proximity with objects that require skill and manual dexterity for the most effective use. Further, the hand of an adult reaching toward that of a child evokes a meaning different from that of two adults shaking hands, though in both cases the contact is an expression of human relationship. The perception of visual images therefore encompasses both the seeing of images and the assigning of meaning to them—each aspect gains significance from the other. (14)

In every case visual expression requires the creation or existence of some kind of visual image. (1) We express our thoughts and perceptions by means of a language or other system of communication that results in a visual picture. We can use visual language that involves the body—gesture, mime, dance. (4) Or we can use visual tools—signs and symbols, painting and sculpture, still photographs and motion picture film, television and videotape. Becoming visually literate means being able to understand and to express oneself in any or all of these forms. (19) The vocabulary is vast—especially as technological advances provide new options—and so are the possibilities for significant results. Teachers who are aware of the range of experiences offered by visual literacy can encourage and teach sensitivity to visual images and thus help expand their students' powers of perception and expression. (1)

VISUAL SYMBOLS

Our language system is visual in that words are symbols for things and a word can bring to mind a picture of the thing that is being communicated to us. A  is talked about as a box. The word BOX is a visual symbol for the object But the word is abstract. It is not a picture of a box. To this degree speech and writing require a similar type of visual comprehension, but the use of vision is secondary.* The word BOX stands for , and thus a picture is projected by means of a word. The object itself, when perceived by the eye, is seen directly. There is less interruption between seeing an object and perceiving its meaning than there is between reading a word that stands for an actual word or situation and perceiving its meaning. Although written language is perceived visually, because it is an abstract system it is separate and different from the direct and instantaneous experience of seeing/understanding.

There are also signs, which have direct and obvious meanings. Traffic signals and road signs are especially good examples of this: red and green lights for *stop* and *go*, yellow triangles for *yield*.

In addition, every culture has basic visual symbols that are generally understood by members of the culture to stand for particular objects or conditions. These can be thought of as visual metaphors, and they may be especially familiar from TV commercials. (6)

With both visual metaphors and signs there is the same kind of time lapse as there is with written language. When a picture of a gun is used to make a statement about crime or street violence, the message is not the gun—it is the idea about crime or violence that is being conveyed. A person who took in the visual data without knowing the visual language could not accurately read the statement.

Besides single objects or symbols that have become visual metaphors to an entire culture, there are special arrangements or combinations of objects that take on symbolic value. A table set for a meal, for instance, has a meaning very different from a pile of dirty dishes. A single

Persons blind since birth who have gained their vision are often unable to "see" objects, shapes, scenes, that they have been able to describe verbally. The immediate impact and experience of vision is different from, and separate from, the comprehension of a word standing for an object.

motorcycle on a country road is different from a band of motorcycles on a dark street. These are just two of many possible examples. There is also a whole vocabulary of gesture and body movement that comes to have a clear meaning within a given culture or subculture—and often a quite different meaning in another culture. (7) All of these forms make up the visual literacy that is common to all of us.

VISUAL LITERACY IN THE ERA OF TV

Visual literacy has a new and broader meaning since the popularization of the visual media of television and photography. At this time, students of all ages, from primary school through college, have been exposed to, sometimes even immersed in, the visual media, most importantly TV. (6) There are few students today who do not understand the idiom of television. Young people who have long exposure to TV (and five preschool years alone are long exposure) are sophisticated beyond their years in the medium. Without necessarily being able to articulate their comprehension verbally, they understand the various conventions governing shifts of time, dissolves, overlapping of images, and the like. They are connoisseurs of different formats—from situation comedies to interviews, from documentaries to musical specials. Students today, even if their TV exposure were to commercials only, have an experience of the world that would have astonished their great-grandparents. Television's blanketing of the globe has a tendency to make the entire world familiar through audiovisual experience. (13)

With TV there is immediate and direct reaction, where with the printed word there is a delay between intake and comprehension of a series of related words that require time to process. This is what Marshall McLuhan refers to when he writes about the differences between linear and simultaneous experience. *Linear* experience—of the printed word—requires a lapse of time for reception and imaginative recreation. *Simultaneous* experience—of the visual image and of the spoken word—involves immediate recognition and reaction, often without time for critical judgment. (12) This is part of the basis of the criticism directed at TV: that young people (and adults) can be so convinced of the reality and the messages of the visual images that they suspend their active reasoning process in favor of passive acceptance. It is easy to see why this is likely: television and film seem real. Much of our training predisposes us to accept their validity. "A picture is worth a thousand words." "Seeing is believing." "Pictures don't lie."

On the other hand, television has expanded immeasurably the audience for, and the vocabulary of, visual communication. If it poses the threat of becoming a shortcut to thought and reasoning, it has also become an

engrossing form of expression. Familiarity with television produces students who are receptive to the use of visual materials in a variety of ways. (6)

Some young people may have difficulty with reading and writing if their only experience, or that part of their experience that has been most satisfying, has involved a combination of verbal communication and looking at pictures—pictures of what seems to them to be direct reality. A broad program that calls upon the visual-literacy skills they have already acquired may help them make the transition from direct to symbolic communication.

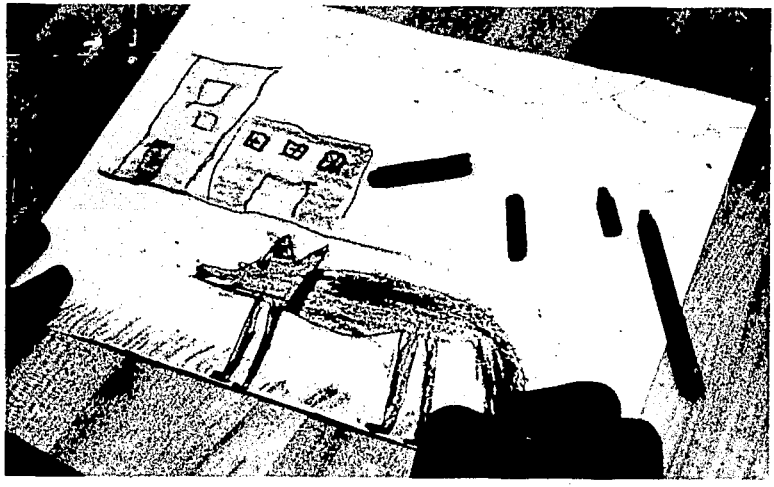
Older students, turning away from more traditional methods that treat them as objects to be instructed, are seeking to be involved directly in their own learning. (14) The possibility of using visual techniques becomes very important here, as these techniques can enhance both learning in the classroom and functioning outside it.

Visual literacy suggests a broader approach to the awakening of perception in students and to the training and encouragement of their expression. It does not deny the importance of the traditional language arts but expands the dimensions of experience so that students will have more possibilities and capabilities of expression. Visual-literacy training gives students new angles from which to approach their experience and from which to relate it to the experience of others. (19) For example, a very young student can take pictures of her/his family and pets, and then talk about them and use them in other different ways in class. A label on each picture—a word that is the name of the thing represented—that has been printed by the student can be the basis for reading and writing short stories. What develops then depends largely on the teacher's initiative and interest.

VISUAL LITERACY IN THE CLASSROOM

In the early years of school, teaching visual literacy means applying the vivid reality of pictures and visual experiences to life in the classroom. Children's own pictures have a meaning and importance to them that should be taken seriously by all teachers. Positive experiences in this area help form a secure bond between visual thinking and abstract thinking.

Rudolph Arnheim argues that visual perception should not be separated from abstract thinking, that visual perception is the basis for concept formation. (1) It is an integral part of thinking and reasoning. Thinking requires and depends on images. Even the most abstract theorizing involves the ordering of images that have a certain meaning. Therefore, the development of the intellectual processes involves the understanding and use of meaningful images. Any way that visual thought-pictures can be integrated into the word- and sign-oriented classroom day can expand the perception and awareness of the students. (6) This in turn contributes to their ability to express themselves and to relate their expression to that of others.



Toward Motivation and Student Involvement

The extension of visual literacy activities into the curriculum can involve students actively in the planning of their own time and the forming of their own objectives. Especially now, when many students are impatient with the traditional classroom where the organization is imposed and limits are set on the course of study, individual work with visual material can enable all students to design and carry out their own projects, from their own points of view. (6, 19) We return then to conceptualization—if students are forming their own boundaries and creating their own limits, if they are self-motivated, then they, not the teacher, will be obliged to project and organize their own thoughts. In Arnheim's words, "by furnishing images of kinds of qualities, kinds of objects, kinds of events, visual perception lays the groundwork for concept formation." (1) Learning can become much more organic, coming from students' own experiences, taking shape within their own limits, under the guidance of the teacher.

Use of the Camera

So far we have suggested the classroom use of a student's own visual materials, such as drawings. But the use of photography has the most far-reaching implications. (6) Film, both still and moving, has become a common form of communication for students of all ages. The influence of the camera is evident in all aspects of our lives—record keeping, advertising, illustration, entertainment. (13) For over a century, the camera and film have been used to convey scenes and to record impressions, but only in the last two decades has motion picture photography been an everyday companion in homes and public places, thanks to the phenomenon of television. Now the camera and its functions are a part of everyone's vocabulary. The familiarity that we all have developed with the world as seen on film has made us receptive to its uses and functions.

There are endless possibilities for using the camera as a means of expression in the classroom. It is first of all an extension of the eye in both seeing and recomposing the world around. Students of all ages can

compose and project their *impressions* of that world by means of their drawings and paintings. They can organize and express their *points-of-view* of the world around them by means of the camera. They can use the camera to develop visual metaphors: now we are back to the changes in meaning between a hand, a hand holding a tool, one person's hand touching another person. With a simple still camera even young students can tell a story. (6) They can compose an image that sets a scene or suggests an anecdote. With a group of still photographs, they can "write" any number of different sequences each having different meanings. (19) They can present not only an image of an object but also their points-of-view toward it, using the technical facilities of the camera eye to achieve focus, size, distance, light, color, arrangement.

More sophisticated camera-users can treat their equipment in more sophisticated ways, just as older and better trained students can write more clearly and objectively than first-graders. Thus, as students acquire greater capabilities for visual communication, they move into an appreciation of the expressive possibilities inherent in the use of a camera. The angle of vision, the relationship of objects in space, the effects of distortion, the degree of detail, the depth of field—all of these work for, and are used by, visually articulate students. In much the same way, competent writers make use of metaphor, simile, exaggeration, and irony to give them the means to express and communicate what they have in mind. (19)

Visual Literacy as a Means of Self-Expression

A teacher whose students have difficulties in verbal expression may find that visual language can develop and expand their verbal skills. (6) Students with language difficulties are still seeing, and responding to, the world around them. Their difficulties in reading and writing may frustrate any effort they might make at verbal expression. But visual expression—whether by means of drawing, painting, body language, or film—can rechannel their energies and allow them to experience greater satisfaction in expression. Then this greater satisfaction can possibly reduce the frustration that has increased their difficulties with verbal expression.

This use of visual expression extends beyond a simple substitution of picture-for-word. Next come the shadings: point-of-view, angle, intensity. Then come the skills of organization and supervision. With a movie camera, students can move, either singly or in groups, into the planning of a whole project: the writing or other preparation necessary for carrying out the plans, the production that implements their plans, the editing and other technical finishing of the film. (24, 25, 27) The ability of film to seem alive, to be an almost direct projection of images in the mind, makes the filmmaking and film viewing experiences direct and immediate to both filmmakers and audience. Students who have access to videotape equipment can record not only the visual events, but also the sounds that give additional reality to the visual images. But there is always the point of view of the camera operator, or the director, or the scriptwriter. The reality of an event is transformed on film into the personal expression of the one person or group of people who made it. Filmmaking is, therefore, a mode of communication, not just transcription. It is a process that involves seeing, understanding, selecting, and expressing.

Film in the Curriculum

The immediacy of film as opposed to the written word is important in film-viewing as well as in filmmaking. Consider, for example, the drama of a hungry wolf pack after a caribou as shown on film and as described in the pages of a textbook. To convey all the aspects of the situation in words would require mentioning, at the very least, the weather, the terrain, the time of day, the relative size and physical strength of the predators and the victims, the distance covered by the chase. On film all this information can be given almost instantaneously to support the drama of the subject. Using films in the classroom can create the impression for students that they are actually present in the action being shown. Rather than simply reading about a situation they have a feeling of having access to it. Film is a kind of proof of actuality.

Film and other visual-literacy materials can be used to great advantage in all areas of the curriculum. (18) Filmstrips on almost any given subject, for example, are available to teachers. They can present familiar material from a new angle or at a different pace . . . give background detail at a

glimpse . . . show time-lapse progressions such as a flower blooming . . . or capture the development of an egg into a chicken. Filmstrips can give variety to a teacher's presentation on almost any subject. A bibliography of current filmstrips and where they are available can be found in most libraries.

The objectives of different programs involving visual literacy vary. Each teacher must assess the needs of her/his students and present visual materials and techniques accordingly. (19) We have seen how visual perception is integrated into our daily lives through signs, symbols, gesture, art, and photography. We have seen how visual techniques can expand the expression of the individual in the world. This latter is especially true for students whose expression has been inhibited because of language problems, learning difficulties, differences between the native language and that of the community. The teacher can evaluate the capacity and the interest of her/his students. She/he can take into consideration the strong motivation that students have toward forming their own structures rather than accepting those imposed on them—while keeping in mind all the while the very real importance of teacher guidance. Then the teacher can take advantage of whatever equipment is available.

First of all there is the traditional equipment: paper, pencil, crayon, paint, clay. Then come the inexpensive simple cameras for still photography. (6) Classroom projects involving the use of still photographs can include:

- Composing an autobiography or a biography of a relative or a pet
- Describing a place, an historical event, a scientific fact
- Comparing the same person or thing from different points of view
- Using the same set of pictures in different sequences to tell different stories.

The teacher can make use of photographs in most areas of the curriculum: language arts, social studies, science, and mathematics.

The possibilities for using motion picture equipment are vast. Students can write, direct, and film a true story, a made-up story, a documentary. They can use all facts or all fantasy or a combination of the two. They can

create time-lapses, fantastic effects, visual distortions. They can run film backwards and upside down. Using animation techniques, they can make drawings, clay figures, even paper cutouts behave in whimsical (or serious) ways for whatever purposes they have in mind. (26) There is no lack of work involved, but the work is self-generated. If it is organized—and this is where the teacher's guidance is especially crucial—it is bound to be productive.

Working with Simple Materials

Where very little photographic or similar relatively inexpensive equipment is available, students can still improve their abilities at visual perception and analysis by working with such printed graphic items as posters or magazine advertisements, or with bulletin boards and similar displays. When such simple visuals are available, the teacher might make a point of having a short daily discussion of them. In such a case, a series of guide questions might be framed ahead of time to help students participate fully in the discussion. Questions beginning with *where?* (spatial arrangement), *when?* (time cues such as position of sun and shadows), *how?* (the relation of pictured persons or objects to each other), and *why?* (evidence of cause-and-effect relationships, part-whole relationships, etc.) can help students analyse visual data. A series of such sessions with posters, magazine or textbook illustrations, overhead transparencies, or their own displays will help them know what to look for in pictures.

After a few such discussions the group might be asked what they would add to a particular visual or how they would rearrange its content to communicate additional specific information. The same visual might be studied for several days to obtain different levels of information, or depending on the interest of the group, visuals might be changed frequently to help students transfer their increasing visual skills to a wide range of subjects.

SOME EXISTING PROGRAMS

Brief examples of several successful programs may further spark your interest in visual literacy tools and make the techniques more understandable. Keep in mind that these three programs far from exhaust the possibilities and that this is by no means a complete list of the programs in existence.* These examples are of fairly new curricular areas—mental health, bilingual education, and dyslexia. However, teaching visual literacy skills does not necessarily involve innovation. Many school districts have long-standing programs in traditional curricular areas.

Enfield High School, Enfield, Connecticut

Juniors and seniors in this high school use visual literacy tools in their social studies program on the problems of society. Each year they make slides, tapes, and movie documentaries about pertinent subject matter. The visual and verbal materials developed in this program have been used by the National Association for Mental Health. Students have produced a brochure entitled "Cry Help," which explains how to do a visual community survey on mental health services for adolescents.

Project TESOL, Yettem School, Tulare County, California

The idea that developing self-expression by means of visual language might lead bilingual children into verbal self-expression was explored by Project TESOL. The hypothesis was that even disadvantaged children have a wealth of experiences, visual experiences in particular, that are not adequately tapped by traditional teaching techniques. The camera can become a primary means by which such children can conceptualize their ideas and thus share them with others. There were only 30 Mexican-

*More information may be obtained from the Center for Visual Literacy, Taylor Hall, University of Rochester, Rochester, N.Y. 14627.

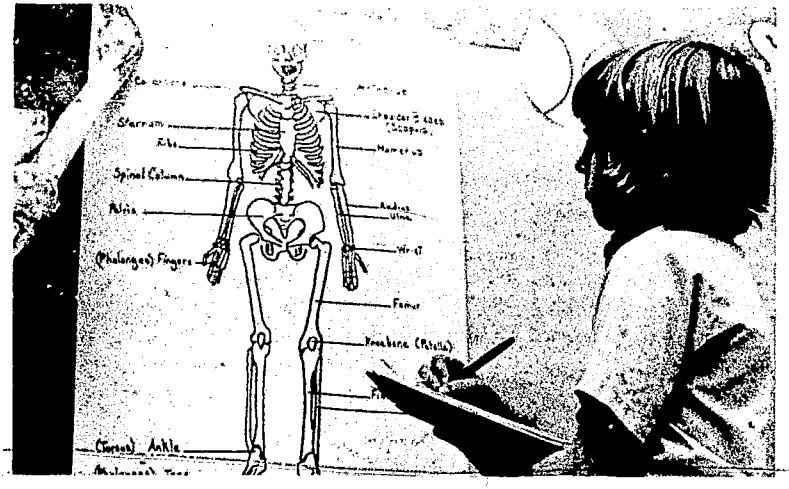
American children in the original project at the Yettem School, but the success of the project in reaching these children and their families has caused the program to be extended to many other schools in the area. A booklet about the program has been written by Patricia Heffernan-Cabrera, director of the Teacher Corps, Rural-Migrant, School of Education, University of Southern California, Los Angeles, California 90007.

Landmark School, Prides Crossing, Massachusetts

This school was founded in 1973 for young people ages 9-15 who experienced various symptoms of dyslexia. A pioneering program in visual aperception—relating perception and visual comprehension—has been started there by Bartlett Hayes. Children work with all kinds of visual tools, games, and puzzles as well as with paints and cameras. The goal is to stimulate and expand both their perception and their understanding of the world around them, as well as of the world of words and abstract symbols.

SUMMARY

Visual literacy applies to everyone, not just to students in the classroom. The expansion of perception that takes place as soon as serious visual observation begins is relevant to everybody in every place. When teachers pursue visual techniques assiduously, students begin to learn to *see*—to be observant of detail in their physical environment—and to relate what they see to prior perceptions and experiences.



It is necessary to remember that the tools of visual literacy must be integrated into the lives of students along with the more traditional teaching tools. (19) Visual literacy programs are only a gimmick unless they are combined with existing instructional programs, or are used to support the body of knowledge that teachers want to convey. Using techniques of visual literacy will not substitute for reading literature or for learning basic mathematics. Visual literacy may enhance both of these, however, and it may indicate other avenues by which these processes and many others may be approached. *But the main object of visual literacy is to give new dimensions to each individual's perception and expression, not to substitute one rigidly limited dimension for another.*

Starting with the youngest students, a teacher can encourage the use of visual literacy materials in the classroom. Paper, paint, crayons, and clay can be used in all kinds of projects in many subjects. Young people should be encouraged to describe their work, to define the thought behind the result on the page. The teacher must try to recognize the variety of perception and expression in different students and to value that difference. Students will then come to realize that perceptions vary, that each one has its value. They will begin to see new approaches.

Students armed with simple cameras can use them in all kinds of ways in the classroom. (6) To paraphrase McLuhan, the camera is an extension of the eye. (14) A camera can help someone to *see,* to recognize the elements of a visual scene that may all the time have been present but not noticed. For instance, several photographs, by different students, of the same house or building can be used to point out symmetry (or the lack of it), proportion, proximity. Different aspects of the same object can be compared and their characteristics discussed. The use of students' own materials focuses on their concerns and allows their perceptions and points of view to be recognized and appreciated. What students see and experience can help provide the basis for their learning.

A movie camera adds new dimensions to the repertory of visual expression. (24, 25, 27) Subject matter, story line, tone, form, organization—all these must be further defined and expressed for the students' efforts to be successful. They are making a complex statement that needs imagination and perseverence—they are speaking in their own idiom. Even students making films about the same or similar subjects will bring their own individual points of view, their own images, to their work.

By the time students have learned to use visual techniques, they have added another dimension to their experience. Consider the far-reaching effects this can have on society. People who learn to relate their visual perceptions to their lives and environments might concern themselves with the way the planet looks. On a small scale, they might try to determine why certain visual images or forms have a positive effect on them while others have a negative effect. They can try to assess the visual attitudes of others: their painting, their surroundings, their cinema, even their manner of dress. On a larger scale, they might try to define the general or special physical and mental effects that different visual forms have on members of society. This can lead them to the history of art, to anthropology, to sociology, and to architecture. The possibilities are endless. In fact, they reach as far as the human eye can see and offer as much as the human mind can encompass.

Nothing is more important than getting started.

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BIBLIOGRAPHY ON VISUAL LITERACY

by John Aquino

This annotated bibliography was developed by the ERIC Clearinghouse on Teacher Education from a computer search of the ERIC data base. This bibliography cites both ERIC documents (ED) as announced in the monthly abstract journal *Research in Education* and journal articles as announced in *Current Index to Journals in Education*. Unless marked "not available," ERIC documents can be perused on microfiche at 16 ERIC clearinghouses and more than 500 institutions that have ERIC microfiche collections. Copies of these documents on microfiche (MF) or in hardcopy (HC) can be purchased by their ED number from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia 22210. Prices vary according to page count; for details, contact EDRS or the ERIC Clearinghouse on Teacher Education, One Dupont Circle, Washington, D.C. 20036. Journal articles are not available from EDRS in any form.

Abbott, Wendell, and Haynes, Margaret. *Aesthetic Awareness: A Means To Improve Self Concept in a Multi-Cultural Environment*. Gainesville: University of Florida, P.K. Yonge Laboratory School, 1973. 72 pp. ED 086 569. MF & HC.

In this experimental program a variety of experiences are examined from an aesthetic point of view. The purpose of the study was to investigate the effectiveness of a 5-week program in value-building activities with emphasis on increasing aesthetic perceptions of the environment, improving self-concept, and developing socially acceptable ways of expressing feelings as well as accepting the feelings of others. Thirteen pupils of divergent backgrounds, from the sixth to eleventh grades, participated in a program implemented by two art teachers using four components: field experiences, audiovisual stimuli, group discussions, and self-examination experiences. Data were collected and analyzed comparing changes between pre- and post-tests. Personal interviews, anecdotal records, audio tapes, photographs, and the children's views of themselves revealed significant changes in all three areas.

Birke, Gisella. "The Use of Visual Stimuli in Teaching Speech." *Speech and Drama* 22: 15-18; Spring 1973.
Speech instruction can be broadened through the use of various types of audiovisual communication.

Bourne, Lyle E., Jr. "Effects of Rule, Memory, and Truth-Table Information on Attribute Identification." *Journal of Experimental Psychology* 101: 283-88; December 1973.
The purpose of the experiment was to examine questions on information specification raised by P. R. Laughlin. Students were asked to solve one attribute-identification problem, using the selection paradigm.

Case-Gant, Alex. *Visual Literacy: An Exciting Environmental Adventure*. Richmond, Va.: Richmond Public Schools, 1973. 5 pp. ED 071 448. MF & HC.
A Title I 5-year visual literacy experimental program was initiated in four kindergarten classes during the 1972-73 academic year. The program was designed to focus on a hierarchy of visual skills and aesthetic experiences involving body language, graphic expressions, and photography and to correlate these with the objectives of the classroom teacher. Conventional techniques for distinguishing differences and similarities among tastes and tactile impressions, light and dark, open and closed, shape, hue and size, space perception, and rates of movement were greatly enhanced by photographing these experiences and showing the photographs to the children. The children's verbal complexity was increased.

Dwyer, Francis M. "The Relative Effectiveness of Two Methods of Presenting Visualized Instruction." *Journal of Psychology* 85: 297-300; November 1973.
This article indicates that the method of presenting visualized instruction determines the type of visualization most effective with different educational objectives. Color is an important variable, and not all visuals are equally effective.

Kappel, Stephen, and others. "Effects of Vocalization on Short-Term Memory for Words." *Journal of Experimental Psychology* 101: 314-17; December 1973.
The serial recall of visually presented words which were either read aloud (voiced) or read silently was examined in three experiments.

Loy, William G. "Using Air Images in the Elementary Grades." *Audiovisual Instruction* 18: 46-47; December 1973.
A brief description of how aerial photos can be used in the teaching of geography in the elementary grades.

Montebello Unified School District. *Visual Literacy Yearbook*. Montebello, Calif.: the District, 1973. 33 pp. ED 086 266. MF & HC.
This yearbook describes the program undertaken by the Montbello, California, Unified School District to assist children's development in the language arts by giving them the opportunity to use cameras to record their visual experience and by then using the resulting pictures, slides, and films as the basis of language arts experiences. It explains the logic underlying the program: that is, children begin to discriminate and interpret the visual actions, objects, and symbols they encounter in their own environments and thereby acquire an intrinsic, self-oriented motivation to develop the creative language arts competencies needed to comprehend and enjoy these experiences and to communicate them to others.

Speed, Waneta. "Career Education at the Oregon State School for the Deaf." *American Annals of the Deaf* 118: 585-88; December 1973.
In the career education program of the Oregon State School for the Deaf, students from preschool through grade 12 utilize a variety of media to prepare for real life goals.

Sterling, Vicki, and Hyland, Barb. *Nature's Bulletin Board Ideas*. Chester, S. Dak.: Chester Area Schools, Interlakes Environment and Outdoor Education Program, 1973. 73 pp. ED 086 500. MF & HC.
This is a collection of over 50 bulletin board displays suggested for use in the elementary (K-8) science classroom. The recommended grade level for each is given, purpose stated, and relation to units in the curriculum given. Also included are general tips on making effective bulletin board displays. This work was prepared under an ESEA Title III contract.

"Technical Reports." *Visual Education*, August/September 1973, pp. 35-37.
A report on new audiovisual equipment which gives basic data and test results.

Thor, Donald H. "Counting and Tracking of Sequential Visual Stimuli by EMR and Intellectually Average Children." *American Journal of Mental Deficiency* 78: 41-46; July 1973.

Deficiency in counting ability was examined through assessment of counting and tracking task performances of 18 adolescent educable mentally retarded (EMR) boys and through comparison of performances of 20 EMR boys and 20 younger normal boys.

Wintrob, Ralph, ed. *Canadian Materials 1972*. Ottawa: Canadian Library Association, 1973. 92 pp. ED 086 165. Not available from EDRS. Available from Canadian Library Association, 151 Sparks Street, Ottawa, Ontario K1P 5E3, Canada ($5.00).

A variety of material is encompassed in this annotated awareness list of Canadian-produced or Canadian-oriented materials. Its purpose is to include all materials published or reprinted in 1972 which are suitable for use in school resource centers from kindergarten to twelfth grade.