ARTiFACT

A Problem to Project-Based Interdisciplinary Curriculum for Visual Literacy

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Learning Problem and Broader Context
It has been demonstrated that many students have difficulty effectively articulating and communicating their thoughts and perspectives through visual language; additionally, most have equal difficulty in understanding others’ thoughts and ideas expressed through visual language. Undeveloped visual literacy skills can weaken students’ ability to understand the important relationship between the purpose and reality of images. As the amount of information communicated visually increases, the need grows for students to be visually literate.

Developing History, a module of ARTiFACT, aims to promote in middle school students a lasting ability to critically analyze photographic images used to record history. This experience provides opportunities for students to “read” and produce photographs that communicate history and culture. Following a problem to project-based approach, the module focuses on building visual literacy skills through the analysis, evaluation, and creation of photographic messages tied to the theme of equality in history.

Background
"Based on the idea that visual images are a language, visual literacy can be defined as the ability to understand and produce visual messages” (Arizona State University, 2002). While it is a natural process for children to communicate visually (Greenaway, 1999), students do not naturally refine the skills necessary to understand and create visual messages. "Daily, they are bombarded by a constantly changing torrent of messages from billboards, architecture, magazines, four-color newspapers, television, and films” (Williams, 1995).

Visual literacy involves thinking critically and analytically about visual information in order to assess both the meaning and the intention of that information as well as using these skills to create new forms of visual communication. The International Visual Literacy Association offers a detailed definition:

Visual literacy is “a group of vision competencies a human being can develop by seeing and at the same time having and integrating 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 visual actions, objects, and/or symbols, natural or man-made, that are [encountered] in [the] environment. Through the creative use of these competencies, [we are] able to communicate with others. Through the appreciative use of these competencies, [we are] able to comprehend and enjoy the masterworks of visual communications” (Fransecky & Debes, 1972, p. 7).

As globalization comes more to the forefront of our society and visually rich forms of information dominate our methods of communication, visual literacy becomes a crucial skill, a necessary proficiency for all well-educated individuals to possess (Debes & Williams, 1978, Oring, 2000, Williams, 1995, Kirrane, 1992, Avgerinou & Ericson, 1997). The justifications for developing visual literacy in today’s youth are numerous. The sheer amount of information being communicated visually is enormous (Day, 1997). Mary Alice White, a researcher at Columbia Teacher’s College has found that young people learn more than half of what they know from visual information (Bellingham Public Schools, 1996). Being visually literate allows the viewers of images
to grasp the larger social implications of an image (Plantinga, 1995). Without visually literacy, students might “fail to see, understand, and learn to harness the persuasive power of visual media” (Day, 1997).

However, to be visually literature, all students must “speak” and “read” the visual language. “For communication to take place, there must be a common language between an artist and an audience. Some amount of effort on the part of both artist and audience is required... What is the sense in having a language - either visual or verbal - that we fail to understand?” (Oring, 2000). The question arises “are students qualified speakers and interpreters of visual language?”

“Man is used to the fact that there are languages which he does not at first understand and which must be learned, but because art is primarily visual he expects that he should get the message immediately and is apt to be affronted if he doesn’t” - Edward Hall, 1966

It is important to recognize that others argue that all people need resources to develop their visual literacy skills. Horton (1992) writes of visual literacy: “Often we have difficulty communicating visually because what we create is not what we or others really see. We create what we remember and we remember what we pay attention to, not what we see.” He also suggests that “[t]he inborn capacity to understand through the eyes has been put to sleep and must be reawakened.”

“Simple exposure to film and television doesn’t provide the capacity to criticize the ‘terrible importance of what images convey’” (Kirrane, 1992). To understand visual messages, people must possess more than just the perceptual and cognitive skills they develop for everyday life (Plantinga, 1995; Yenawine, 1997). “We are educated from infancy to look; we are not encouraged to see and interpret simultaneously. Our eyes imbibe images with little critical resistance” (Ewen, 1989). This lack of critical analysis is especially prominent in the confusion of pictures and reality. Too often people believe that “photographic media (i.e. most of the images we encounter) are simply direct mechanical records of the world around us” (Griffin and Schwartz, 1997), but this is certainly not the case in most instances - the picture has been framed, the focus shifted, the context removed. All of this suggests the need for visual literacy education in schools.

“If children are not taught to look and understand what they see, isn’t this a failure to prepare them for life in contemporary society?” - Williams, 1995

The assumption is made that students naturally acquire and refine visual literacy skills and thus, are capable of immediately understanding a visual message (Horton, 1992; Avgerinou et al, 1997); as a result, the presence of visual literacy in education is lacking (Yenawine,1997). The majority of K-12 school systems focus almost exclusively on text-oriented, verbal literacy to the exclusion of visual literacy (Sweitzer, 1996, Horton, 1992). Only a very small number of schools have a specific curriculum in place that teaches children how to critically analyze visual messages (Bellingham Public Schools, 1996). Even then, visual literacy “is usually taught at only the most advanced levels of photography or art training. At the lower educational levels the concepts of visual communication are barely touched upon - if they are covered at all” (Oring, 2000, p.58).

Research conducted on hemispheric processes has found that the right hemisphere, the side of the brain responsible for dealing with spatial processes, is greatly
underdeveloped due to our present educational system (Avgerinou et al, 1997). “In today’s information society, students risk leaving compulsory school as picture-illiterates, never having learned a critical approach to the pictures they encounter in the news media and in informative material of various types. The risk is great that students - far too uncritically - believe that all pictures they see describe the world correctly and reliably” (Petterson, 2002). If educators are to prepare students to be productive and informed citizen, then training in visual literacy needs to start at an early age in schools (Kirsch, 1992; Oring, 2000; Yucht, 1999).

It is important to note that the learning problem can be addressed. One study in which visual literacy training was tested found that those students who received training in their higher education classes scored higher on their analysis of the visual messages than those who did not receive training (Goldthorpe, 1993). It appears that “visual literacy can be learned and improved” (Horton, 1992), which means that it is possible for schools to develop an effective visual literacy curriculum (Avgerinou et al, 1997). However, in order to “effectively teach visual literacy, students must be allowed to be both composers and consumers of images. They should do projects that will enable them to select, rearrange, crop, put together and restructure images, sound and text, after which they should evaluate the consequences of their choices” (Brunner, 1994). In other words, the process of becoming visually literate involves students being composers and consumers of art.

"Art is a language of visual images that everyone must learn to read. In art classes, we make visual images, and we study images. Increasingly, these images affect our needs, our daily behavior, our hopes, our opinions, and our ultimate ideals. That is why the individual who cannot understand or read images is incompletely educated. Complete literacy includes the ability to understand, respond to, and talk about visual images.”

- Edmund Feldman, 1992

Visual Literacy and Photography

The present module of ARTiFACT, Developing History, focuses on understanding photography as a medium of communication and documentation. Many students believe that photographs are sources of truth, snapshots of reality. They need to be taught (shown) how to read a photograph and how to uncover the context in what are often decontextualized snapshots of reality. To examine the tension between purpose and reality, students need to develop the vocabulary necessary to engage in discourse about photography. The inability to discuss a photograph’s message and the traits of the photograph that effectively or ineffectively display this message is an illiteracy comparable to lacking the words to explain one’s understanding of a novel or short story.

Since the development of photography, it has been used as a method of communication and a way of archiving the human experience. It provides the perfect opportunity to teach one component of visual literacy.

With the advent of simple to operate automatic cameras, it is relatively easy to make a photograph. Photography can provide a child with critical skills in perception, conceptualization, verbalization, and decision-making within experiences that are real for him or her... A whole curriculum can be built around the camera in which children can learn something about any topic based on their developmental level.... Children use the camera as the link between impression and expression (Oring, 2000).
ARTiFACT wants to exploit this opportunity to teach about critical viewing and composing skills. “Even when the image looks like a real event being captured, a critical viewer understands that there is a marked difference between reality seen and reality photographed... composing the image to magnify or reduce certain aspects of what is seen in reality” (Hefzallah, 1990). Using photography as a communicative medium, students not only explore history, but also (and perhaps more purposefully) build their visual literacy skills.

Theory
Each component of ARTiFACT was purposefully selected to create an engaging and principled learning design. An analysis of the learning activities will reveal the theoretical foundation behind the selection of each. Developing History is an interactive learning module that follows the constructivist framework in that students actively form connections and knowledge through a series of on and off the computer activities. ARTiFACT assists the learner in their understanding of the concept of visual literacy by providing activities and projects that encourage the learner to break down parts of the whole concept.

The overall structure of the ARTiFACT curriculum follows an approach outlined by Barron (1998). In “Doing With Understanding,” Barron suggests that problem-based learning should precede project-based learning. In the problem-based component of the curriculum, contrasting cases and component skills activities scaffold the students’ learning prior to the project. Perceptual learning theorists argue that contrasting cases can affect what learners notice and how they interpret information (Bransford and Schwartz, 2000). By developing the curriculum in this way, students gain the necessary skills to successfully complete the project-based component.

The narrative, weaving throughout the modules, is an essential part of the curriculum. It was included to provide context for the use of visual literacy skills and add coherence to the curriculum. “A narrative is a representation of past events in any medium” (Linde, unpublished, p. 4). It is an important part of knowledge and the transfer of knowledge from person to person. In addition, narrative is an easy way to explore and express identity knowledge, the idea of who one is and what one’s history has been (Linde, 1993). Studying identity knowledge is a necessary element of understanding the theme of equality. For these reasons, narrative plays a vital role in the curriculum.

The interactive, computer-based component was included for several reasons. First, it has been demonstrated that interactive media can enhance the learning experiences of art students (Harrell, 2000). Students demonstrate greater understanding of the material and experienced carryover effects between lessons (Cason, 1998). Additionally, interactivity increases engagement of students in the experiences. Instead of being passive containers to be filled, students seek knowledge at their own pace through experimentation with the photographs. According to the Imagery Cognition Theory, relevant experiential activities are a necessary component to conceptual art education. Lastly, it has been shown that in order to understand the environment, people need to see how it changes with their behavior (Kazzmarek &
Bach-y-Rita, 1995). The interactive elements of the photography composition lessons enable students to see the immediate effects of their actions. In addition, students receive verbal feedback provided by ARTi, the ARTiFACT learning agent. It is ARTi’s responsibility to guide student’s reflection during the lessons and provide reinforcement.

ARTiFACT requires students to compose images, not just interpret and consume images. “When students select, rearrange, scan, crop and combine images, text and sound, they have to make choices about what is appropriate use of an image” (Brunner, 1994, p.17). Williams (1995, p.67) reinforces this notion, “…[the] creation of images is a matter of mind that calls for inventive problem-solving capacities, analytic and synthetic forms of reasoning, and the exercise of judgment.” In Developing History, the off-computer composition of photographs and the on-computer manipulation of photographs enable students to make their own decisions in generating photographic messages. This activity is supported by the generation effect. The generation effect refers to the fact that a learner will remember a concept better if he or she is involved in generating it rather than just studying it. For this reason, it is important that students be involved in generating photographic messages as well studying how others create these messages.

The inclusion of learning journals is grounded in several theories. The reflective nature of the journals helps students build metacognitive skills that can increase transfer (Bransford and Schwartz, 2000). The collage activities of each formal composition feature provide the class collectively with numerous illustrations of the same concept. They help make the concept concrete and real to the students. Providing multiple examples has also been proven to increase retention and student learning. Lastly, the journals serve as a project-based assessment of the student’s learning.

Building on the idea of generation effect and incorporating Vygotsky’s theory, students are asked to participate in the authentic activities of the historical photographer - creating images and displaying those images publicly. “Children should have access to, and participate in, similar cultural activities to those of adults and should be using age-appropriate tools and artifacts…” (Bellamy, 1996, p.131). Vygotsky also argues that children should construct such artifacts and share them with the community. In the Project component, by students composing and sharing photographs, they are constructing and sharing their knowledge in an authentic way.

One of ARTiFACT’s many important facets is its situative approach to learning reflected in the class art show and discussions. Students are encouraged to collaborate with their peers and teachers throughout the process of discovering visual literacy. Through this, students will create a community of learning that greatly facilitates each individual’s education.

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**Ideology**

The ideology behind ARTiFACT stems from the Progressivist and Cognitive Pluralist perspectives. Underlying these ideologies is the notion that schools should teach children to think. By fostering in children the ability to critically analyze, problem
solve, and reflect, students will be able to encounter, overcome, and contribute to any situation. As Freire (1995) states students need to be taught to question, and it is this authentic thinking that will free the individual. Developing History attempts to build students’ visual literacy and thinking skills by developing their understanding of photography as a medium of documentation, communication, and manipulation.

The underlying issue within the curriculum is tackling the common assumption that photographs represent reality. Since children of this age, eight to twelve years old, become increasingly more realistic and literal, a photograph is viewed as a snapshot of reality. Marcy Singer Gabella’s (1994a) research highlights that students “….approached prepositional text, photography and documentary film as constituting ‘actual’ information. They rarely suggested that the content itself was crafted by an artist...” (p.146). Anyone familiar with photojournalism and digital manipulation understands that the way in which a photographer employs the formal features (contrast, balance, lighting, etc.) can dramatically alter the essence of reality. Developing History attempts to skillfully frame this tension between photographic images and reality in order to motivate students to critically ‘read’ and compose effective visual messages.

Recognizing that active discussion and reflection are essential to teaching students to think, ARTiFACT requires students to share their creations (photographic images) verbally and visually with their teacher and peers throughout the curriculum. The teacher will serve as a facilitator, ensuring a supportive and comfortable environment, in which students will comment and critique their peers’ images. This process will allow students to not only build their interpretation skills, but also reflect on their own images - are the images successful at conveying the intended message? Too often students believe that the images "speak for themselves, when, in fact, the meaning is often provided by the viewer’s particular point of view and personal biases, losing the intended message" (Brunner & Tally, 1999, p.11). These activities will help students realize "that everybody does not see the same thing when they look at a [photograph]” (p. 11). In addition to active discussion and participation, students will document their progress in a journal. Students will be prompted to write journal entries or collect visual examples of the formal features learned.

The design of ARTiFACT strives to address the Cognitive Pluralism concept of expanding the educational equity in the classroom. Eisner (1994) explains, “By creating a wider array of curricular tasks, those that require the use of different forms of intelligence, for example, or depend on different aptitudes, opportunities for success in school are expanded” (p. 82). Given that the majority of school curricula focus on the logical-mathematical and verbal-linguistic intelligences, ARTiFACT aims to foster visual-spatial as well as verbal-linguistic skills. In this way, students will be offered another way to communicate their ideas. Our intent is that the curriculum will also help students understand and appreciate diverse perspectives as expressed through photographs. Continually analyzing and reflecting on their peers’ work will introduce students to new viewpoints.