



A Problem to Project-Based Interdisciplinary Curriculum for Visual Literacy

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Developing History

Overview and Background

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Overview and Background

*"To ignore photojournalism is to ignore history."*¹

The purpose of the ARTiFACT curriculum is to develop in children a lasting ability to critically analyze photographic images used to record history and to generate an enduring understanding of the importance of that skill in recognizing connections between and within the past and the present. Research has shown that this skill needs to be introduced and nurtured; otherwise, people may never fully develop the ability to understand the ways in which a photograph, even without digital manipulation, can distort reality or skew perspective. "Simple exposure to film and television doesn't provide the capacity to criticize the 'terrible importance of what images convey'" (Kirrane, 1992, p.61). To understand visual messages, people must possess more than just the perceptual and cognitive skills they develop for everyday life. "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).

The presence of visual literacy in education is lacking (Yenawine, 1997). 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). This assumption is made despite the fact that 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). In current education practices, 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). Only a very small number of schools have a specific curriculum in place that teach children how to critically analyze visual messages (Bellingham Public Schools, 1996). In fact, a study conducted in 1993 indicated that the most prevalent use of media tools in classrooms was to illustrate instruction, not to teach analysis or interpretation of visual information (Semali, 1993). The study also revealed that only teachers in 2 schools out of 10 currently had any critical media education in their instruction. Complicating this matter further is the fact that very few educators have a clear conception of what skills must be taught for students to be visually literate (Sweitzer, 1996). "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

¹ Picturing the Past, p. 127

the world correctly and reliably" (Pettersen, 2002, ¶ 7). 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 (Kirrane, 1992; Oring, 2000; Yucht, 1999).

The lack of critical analysis is especially prominent in the confusion of photographs and reality. "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). People need to be taught (shown) how to read a photograph and how to uncover the context in what are often decontextualized snapshots of reality. Undeveloped visual literacy skills can weaken students' ability to understand the important relationship between the purpose and reality of images. To examine the tension between the two, 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.

The proposed module of ARTiFACT focuses on building visual literacy skills through the analysis, evaluation, and creation of photographic messages. Following a problem-project based approach, this module consists of several technology-based lessons on the formal features of photography and their relation to history, along with individual journal entries, photography creation and manipulation, and collaborative discussions.

Context

The ARTiFACT curriculum is designed for use in middle schools. While the curriculum targets sixth grade students, the concepts and activities are appropriate for seventh and eighth grade students as well. In fact, in some schools, the curriculum may be too difficult and abstract for sixth graders and may be more relevant for older students. Educators must gauge students' prior experience and knowledge to determine the suitable grade level.

The curriculum can be implemented in either the classroom or computer lab. Each environment will offer different advantages and disadvantages. In the lab, students will be exposed to the curriculum at the same time, ensuring all students experience the lessons in an organized, timely manner. Also, the lab environment will allow the educator to be readily available if students need assistance. The educator can also closely observe students' engagement and interactivity with the computer-based curriculum that will aid in assessment. In the classroom, depending on the resources available, students can participate in the curriculum following a station-based model. In this way, the educator

could have more flexibility in scheduling. Small numbers of students could complete the designated lessons at varying times. Depending upon the school's resources and facilities, the curriculum can succeed in either setting.

Given that the curriculum requires specific materials (computers, printers, Shockwave, cameras), schools will need to analyze their resources to decide if the curriculum will be successful.

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 states students need to be taught to question, and it is this authentic thinking that will free the individual. ARTiFACT 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. ARTiFACT 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 entire 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 throughout the curriculum. Students will be prompted to write journal entries or collect visual examples of the formal features being 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.

Learning Goals

The ARTiFACT curriculum aims to develop in students the enduring understanding of the necessity of visual literacy skills in today's world. Particularly, visual literacy skills as they apply to photographic images that serve as representations of history. In line with this major learning goal is the importance of recognizing connections between and within the past and the present. In order to create this lasting understanding necessary for visual literacy in photography, ARTiFACT develops and supports the following sub goals or component pieces of knowledge. Students will:

- Understand the various intentions of purposeful photographic image creation.
- Create photographs that convey an intended message.
- Understand the use of and be able to use formal photography principles of composition including subject, rule of thirds, balance, line, angle of view, contrast.
- Understand that there is a context to each snapshot of reality.
- Recognize historic information communicated or "miscommunicated" through photographs.

Successively meeting these component goals will help create the enduring understanding ARTiFACT was designed to produce. To assess if students are learning and that the curriculum is meeting its objective, students will be required to both create meaningful, photographic messages as well as respond to photojournalism images in an attempt to interpret its message.

Embedded within this curriculum are several social studies standards. By tying visual literacy critical analysis skills to standards, ARTiFACT increases the likelihood that these necessary skills will be taught in the classroom. According to the National Council of Social Studies thematic standards, social studies curricula should provide opportunities to participate in activities that allow for individual development

and identity. In order to measure the success of the ARTiFACT curriculum to accomplish these thematic standards, students will be required to keep a journal consisting of clipped images, reflections on these images, the context of and thoughts on their own attempts at photojournalism, and other reflections on their experiences in the curriculum, specifically those related to connections between the past and present.

ARTiFACT helps meet many of the National Standards of Arts Education as well. According to these standards, students should be able to “communicate proficiently in at least one art form,” “develop and present basic analyses of works of art,” and “relate various types of arts knowledge and skills within and across the arts disciplines” including history and culture. Successful completion of ARTiFACT builds a solid foundation for further artistic development aimed at meeting these standards. The focus on analysis, interpretation, and creation of artwork will hopefully provide the students the confidence and interest to encourage continual growth.

Overview of Activities

Students will be involved in a series of activities to promote the desired learning. To assess students' initial awareness and understanding of photographic messages, students will view a well-known photograph epitomizing the struggle for equality. Their prior knowledge will be judged based on their initial responses to the following questions presented sequentially so as not to lead student answers: 1) What do you notice about this photograph? 2) What do you think the photographer was trying to convey through this photograph? 3) What were the choices the photographer made when composing this photograph? In addition, students will view a painting and be asked to answer the same questions above in reference to the painting. This activity will serve as a baseline for judging the transfer of visual literacy skills fostered by this curriculum from one medium to the next.

Following this initial assessment, students will embark on the problem module of ARTiFACT. The goal of this section is to help scaffold the students through the process of creating a photographic narrative that conveys a historic event, movement, or time. Specifically, students will be examining the theme of equality throughout America's recent history. Each student will become an expert in one of the three chosen equality topics: the civil rights movement, women's liberation, and social equality.

A warm-up before each activity will introduce students to all of the major ideas in the curriculum. For example, to introduce students to the reality of inequality, the teachers will divide students into two or more groups based on arbitrary traits. As students enter the classroom, the teacher will assign high or low privileges to students based on chosen traits. For example, students wearing blue jeans will be given first choice at seats in the room. The other students will then have to sit on the floor or remain

standing in a segregated area of the room. Another activity might then involve a classroom vote. Certain students will not be allowed to participate in the vote because they possess a certain trait. As students start to object to the inherent unfairness in these illogical acts of privilege, the teacher will facilitate a discussion of equality and inequality and their ever-present place in history. Similar warm-ups will take place prior to each of the other activities in the curriculum. After some of the warm-ups, a debriefing of the students might need to take place. Suggestions on the ways to do so will be included in the warm-up descriptions.

After this introduction, students will start the computer-based lessons. As stated above, students will be given the choice of how to approach the theme. After viewing the introductory video clips for each topic (civil rights movement, women's liberation, and social equality), students will be invited to choose the topic through which they will examine issues of equality and simultaneously, discover the impact of formal photographic features.

Each topic in the theme will be examined through an engaging narrative. Students will aid the storyteller, ARTi, by selecting photographs that best convey the emotion and the nature of the significant historic events discussed. Interspersed throughout the narrative are just-in-time tutorials on the formal features. After students make a selection of a photograph that best fits that component of the story, they will complete an interactive computer lesson examining the formal elements of photographic composition and how each of these features might aid in the selection of photographs that faithfully tell a story. ARTi will guide the students to discover how each choice helps communicate information and messages about the decade. Lessons will cover the effect of contrast on mood, the ability of lines to direct interest and create motion, the significance of subject-matter choices, the importance of the rule of thirds, and the impact of angle of view on the viewer. These elements of composition will be highlighted when appropriate as students hear the narrative of the historical topic.

For instance, the section on subject will be explored by presenting a scene. Using the mouse, a student can reposition an interactive frame that acts as a camera. By adjusting the framing, students can clearly see how their choices affect the subject of the photograph and consequently the meaning. ARTi will provide feedback. Students will be allowed to explore how subject affects the dramatic and expressive nature of the photograph for as long as needed before moving on to a more directed subject task, informally assessing what they have learned. A second concept within photography that can be illustrated with an interactive example is contrast. Students are presented with one scene in which they can use a slider to adjust contrast. Feedback on the different contrast levels will be provided in this exploratory phase. Following this activity, students are presented with a series of pictures in which they can adjust the contrast to reflect the mood of the picture. Again ARTi, the expert, will

provide feedback on these choices. Similar activities will be conducted for balance, line, focus, and angle.

In parallel to the lessons, students will develop their journals. At the end of each computer lesson, students will be prompted to answer a few reflective questions in their journal or engage in an activity. Students will reflect on their learning in both subjects, history and photography. Examples of journal activities include cutting and pasting images from the everyday world, creating collages, drawing examples, or writing entries. The activities will result in journal pages filled with numerous examples of the concepts studied. For example, after the lesson on contrast, students will fill a page of their journal with examples of low, normal, and high contrast images. Reflections on these images and the interactive computer lessons will help prompt their thinking on the consequences of photo-manipulation.

After students have completed the full series of formal concepts lessons, they will embark on the project component of the ARTifact curriculum. Prepared by the problem component described above, students will engage in creating their own photographic message focusing on one of the topics in the theme and its representation in their world. Each student will be given a disposable camera to record his or her own documentation of the theme in today's world, keeping in mind formal photographic techniques. To help insure success, students will be given suggestions on some photographic methods to use and the opportunity to reflect on appropriate subject matter in their own lives. These pictures will be developed on paper and digitally. Students will choose five images they feel best represent their chosen theme. Using the digital version, students will manipulate (crop, adjust contrast, etc.) their own images to best convey the message of the theme. In their journals, students will not only record their thoughts and reasons for their decisions on both choices of images and manipulation but also reflect on their intended message. Additionally, students will be asked to reflect on the ethical implications of their decisions. How faithful is the image to what was actually happening?

As a summative experience, students will be invited to share with each other their collection of photographs that they feel best represent the themes of equality. Each student will display his or her collection of five photographs in the art show on the civil rights movements, women's liberation, and social class equality. The experts in each area will tell the narrative of their story, indicating the formal features they used to convey the theme. Discussion of technique, communication, and messages will follow. Through the sharing of their knowledge and experience, all students will learn about the multiple topics in the equality theme. The jigsaw element of the curriculum will be pieced together at this point.

Assessment of student learning will take place through the student's journal, participation, and their final presentations at the art show. Teachers will be provided with rubrics to aid in their grading and feedback on both the problem and project components of ARTIFACT (see rubrics). Assessment of the curriculum will involve a similar activity used to assess prior knowledge. Students will view the same photograph presented to them prior to their engagement with the ARTIFACT curriculum and asked the same three questions of the prior knowledge assessment. By using the same photograph and painting, the answers to the questions will be easier to compare. The original answers will serve as a baseline for the students' prior knowledge. The second round of answers will serve to judge students learning. How have their observations and interpretations changed? Are students using the key vocabulary in their responses? Also, students will be asked the same questions in regards to a new painting. Are students able to transfer their interpretation skills across media?

Learning Theory and Rationale

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. ARTIFACT is an engaging learning resource that follows the constructivist framework in that students actively form connections and knowledge through a series of on and off the computer activities. ARTIFACT's assists the learner in their understanding of the concept of visual literacy by providing activities and projects that encourage the learner to breakdown parts of the whole concept.

The overall structure of the curriculum follows an approach outlined by Barron (1998). In "Doing With Understanding," Barron suggests that problem-based learning should precede project-based learning. By developing the curriculum in this way, students gain the necessary skills to successfully complete the 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.

The narrative 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 (Kaxzmarek & 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." 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 ARTiFACT 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. The collage examples 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. Multiple examples have 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.

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.