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Let's Make a Better Picture - Teaching Photography as Science and Art to First Graders

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Let's Make a Better Picture: Teaching Photography as Science and Art to First Graders

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> "….more and more photographers have discovered that the power of the photograph springs from a deeper source than words – the same deep source as music. At birth we begin to discover that shapes, sounds, lights and textures have meaning. Long before we learn to talk, sounds and images form the world we live in. All our lives that world is more immediate than words and difficult to articulate. Photography, reflecting those images with uncanny accuracy, evokes their associations and our instant conviction."
>
> - Nancy Newhall

The camera is an artifact of our technological culture and my approach to teaching photography to young children reveals the multiple relationships I have with the medium as an artist and educator. As the philosopher Patrick Maynard has explained, "photography is…a kind of technology … [that can] amplify our powers to do things." In particular, Maynard has pointed to photography's ability to intensify "our powers to imagine things, and our powers to detect things", noting that photography often performs these various functions simultaneously, and that the functions do not just merely combine, but interact in useful ways (1997).

My Cousins Belle Johnson

My original idea for teaching photography to elementary school children was intended to serve many purposes. Committed to a form of community action that would enrich the M.E. Fitzgerald School, a K-8 school in Cambridge, MA[1], I had conceived of a curriculum that would address gender inequity and the under-representation of women in the fields of math, science and technology. Planning to focus initially only on a subset of girls in the first grade, I wanted to use their natural interest in drawing and coloring, which I had observed from time spent in the classroom, and create an inquiry-based

[1] The M.E. Fitzgerald, my local community school, was located at 70 Rindge Avenue in North Cambridge, Massachusetts. My son, Andrew Dumit, attended the school for three years. In 2003, the school was closed as the result of a district-wide consolidation plan. The plan allowed for Fitzgerald students to stay in the building if they so desired, and be joined by the students, administration and staff from the Peabody School.

curriculum that would help them develop the skills for science and math, while at the same time improving their artistic vision.[2]

Yet as I began to develop the curriculum and implement it in the classroom, I began to see many additional "functions" that photography could provide in an urban K-8 school, and I broadened my work to include the entire class of fifteen boys and girls. The technology gave all students a form of realistic and satisfying self-expression that allowed the teacher to "see" her students differently. While studying the photographic process engaged their technological curiosity and was a way for students to creatively focus their scientific inquiries, it also helped learners who are primarily "visual" develop an interest in technical subjects. Moreover, the photographs themselves were a compelling force when displayed at the school facility. Students' pictures of home life and after school activities created a broader picture of the entire neighborhood community, making a vital link between family life and education, a relationship that many educators have argued is essential to the success of any child in the public school system (see the Harvard Family Research Project at http://www.gse.harvard.edu/~hfrp/).

In the following pages, I describe the photography curriculum I developed for six- and seven -year olds, and present the images they produced as a result of their study. If at first I was uncertain whether my ideas would be too complex for first graders, at each step along the way I was both inspired by the student's response to the project and gratified by teachers and administrators feedback. Most of my pedagogical work has been at the university level, yet perhaps it is this lack of training in elementary education that allowed for innovations outside what is traditionally viewed as developmentally appropriate.

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[2] There are numerous research studies as to why girls turn away from these subjects (*How Schools Short-Change Girls: A Study on Major Findings on Girls and Education* AAUW, 1992). Yet hidden among all the research about why girls *don't* pursue these fields, are some useful insights as to what might make these subjects of more importance to girls. In *Building Their Future: Girls and Technology Education in Connecticut* (1996), researchers Silverman and Pritchard found that girls were more inclined to be excited about a project if the object they were asked to build attracted their attention. "One teacher had students build houses, giving them some leeway from the basic design and letting them go on to decorate it if there was time. The girls in this class showed more enthusiasm than girls in a similar class who complained that building bridges was "boring." Yet the principles of technology [and science and math] can be learned as well from building a house, which was of interest to the girls, as from building a bridge."

Background

My inspiration for developing the photography curriculum began when I started a portrait project in two first grade classrooms at the M.E. Fitzgerald School in 2002. My intention with this project was to follow the children through their elementary and middle school years until graduation, creating a vision of the passage of time, and artwork that would enhance the institutionally unfriendly walls of the newly renovated facility. I wanted the children to be collaborative in the process so I planned a demonstration of different kinds of cameras to show them what I was doing.

Snowy Day Derek Bennett

As I unpacked my equipment in the classroom, the excitement was palpable; while most children have certainly seen and experienced cameras, these are usually simple point and shoot cameras that use traditional film or digital technology. They are, in a sense, magical boxes which turn out pictures. Few children, nor many adults for that matter, have any understanding of the science behind that magic. The cameras I brought in for my demonstration were larger than most consumer models, much more straight-forward in design, and also more conducive to explaining the process of photographic picture-making. The children's high level of interest struck me as a "teachable opportunity" and I started to look for grant money to develop a curriculum.[3]

A number of educators and researchers have put cameras in children's hands with a variety of intentions and results. In the mid-1970s, Wendy Ewald spent six years in Appalachia, intending at first to "document" her new community but then creating a more innovative artistic practice (Ewald 2000). She established the Mountain Photography Workshop and began the first of her many photographic collaborations with children, work that would take her around the world in the years following. Ewald continued to create projects in many parts of the US and in Latin America, Europe, Asia and Africa, always establishing working relationships of a reciprocal and non-hierarchical nature.

[3] My photography portrait project started when my son was in first grade and it was his cohort group I wished to follow until graduation. The curriculum project was developed with his first grade teacher, Ms. Mary Beth Callahan, and the class of students that followed the year after his. *Let's Make a Better Picture* was supported with a grant from The Open Meadows Foundation, private individuals and other local businesses and organizations.

Critics and academics have called her work, "a delicate kind of collaborative dreaming …that challenges fundamental categorical distinctions between art and documentary photography, between photographer and subject, [and between] child and adult (2000)." Most recently, Ewald has created the *Literacy through Photography* curriculum, a project that encourages students to find their voice through photographs and written text. The students photograph scenes from their lives and these images become the inspiration for increasing their ways of expression about their dreams, selves, families and communities.

In a recent collaborative project among European researchers at six different institutions, the intentions were much more research oriented. *Children as Photographers*[4] has as its mission the creation of a map of children's practices, decisions and attitudes to photography as they develop between the ages of seven and fifteen. Over 180 children in five countries were asked to participate in taking pictures, with the resulting photographs and accompanying interviews of the children forming the wealth of data that is being used to capture the patterns of meaning implicit in children's practices. Using a Grounded Theory approach to the analysis (Strauss and Glaser, 1967), the researchers have conceptualized three different dimensions to children's photographic picture making; a social dimension, a transparent dimension and a control dimension.

My photographic work with children was conceived simultaneously as a scientific learning experience and art project for the students, and a research endeavor for myself; it was created in the context of an elementary school and specifically as a *curriculum*, yet with open-ended learning outcomes. Certainly artistic self-expression and enhanced media literacy were two of my goals, but I was just as intrigued with using the camera to encourage an interest in scientific investigation and understanding. I had some basic ideas for the project, but I also had a research interest in what *might* occur; a desire to see how the first graders used the camera, what my explanations inspired, and how any resulting photographs would be used by teachers, parents and the school community. My plan was to develop the curriculum *in situ*, seeing what the students grasped in each lesson and developing the next lesson in response to their questions and inquiries.

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[4] This is a large-scale research effort involving working groups at The University of Birmingham, Eastman Kodak, Moderna Museet, EFTI, the Centre for Contemporary Art, and the National Museum of Photography, Film & Television http://www.cap.ac.uk/.

Introducing the Curriculum

> "A black box is an engineering term that works like this. First we drop something into a black box. Then, we wait while our thing is "magically transformed" inside the black box. Finally, we receive a new transformed thing back from the black box. The beauty of a black box is that all we need to know is how to drop something into the black box and what to expect on the other side. We do not need to understand the magic inside."
>
> --http://www.extropia.com/tutorials/perl5/encapsulation.html

A camera can be thought of as an everyday black box, and taking a picture with a modern consumer camera usually happens in one of two ways. With a traditional film camera, a film canister is dropped into the back of the camera and an internal motor advances the film to the proper frame. The photographer looks through the eyepiece and "sees" the picture, then pushes a button. The film is automatically advanced to the next frame and so on until the roll is complete. Many cameras also automatically rewind the film, so the photographer needs only to pop open the camera and take the canister to the nearest drugstore or lab. Within hours or days, the photographer can have the photographs in hand.

With a digital camera, the process is even simpler and perhaps, more mysterious. A digital camera allows one to "see" an exact image on a screen at a reduced size, just as it will appear when printed. Any darkening or lightening of the scene can be changed and viewed instantly by pushing a button. In contrast, photographers using a traditional film camera need to understand something about light and exposure in order to make any necessary changes and these are not visible until the final image is printed. Digital camera users can upload their images to a computer and print them out themselves, or go through a service that will print the photos for them. In either case, whether using a traditional film camera or digital camera, the photographer/consumer does not need to know what occurs in the lab or how a CPU works in order to take a "good picture." When people say, "my camera takes good pictures" they are usually referring to the sharpness of the image and the color quality. They are also implicitly saying that outside of choosing the subject matter, they have nothing else to do with the picture.

Tamika Lakeisha Douyon

In developing a working framework for the photography curriculum, I assumed that many students had posed for snapshots with family members or even used a camera to take pictures themselves. What I wanted to do was help them understand that a camera is a tool and the photographic process a technology. Over a twelve week period in the spring, I worked with the first graders in the classroom once a week, speaking with them about photography, demonstrating some aspect of the technology or accompanying them on a fieldtrip. I showed them cameras, diagrams, and professional photographs to help them think about what a photograph is, performed experiments to peak their curiosity about technology and how photographs are made, and took them into professional situations to prompt their understanding that photographic technology has a wide range of uses. The following sections explain the activities that we were able to accomplish, although there were many more lines of inquiry and demonstration that we could have taken.

Week One: ***Understanding that the Camera is a Box***. There were two primary ideas I wanted to get across at the outset. The first is that the camera is just a box that captures light in various ways. The second is that a photograph is made by light striking a roll or sheet of film placed inside the camera that is transformed into a negative image through a chemical development process. I brought into the class a variety of cameras so that the students could see different kinds of "boxes". Most intriguing was my large format camera which holds a piece of film that measures 4" x 5" (commonly referred to as a 4 x 5 camera); the shutter is manually manipulated and one can see the aperture open and close easily. To take a picture with a large format camera one must focus the image (upside down) on a ground glass at the back of the camera with a dark cloth over your head. I gave each child a turn to look at the image and then "take the picture" by snapping the shutter. I also showed them how the large film fit into the film holders and how it was exposed when the shutter was open.

The first graders already had one sense of the effects of light on film. When I began to unroll the film out of a 35 mm canister, a number of children got very agitated and told me to stop. When questioned, they didn't quite know why it was wrong, but I was able to build on their anxiety with a simple diagram. Drawing a circle on the white board and naming it the sun, I asked the students what was missing and they easily

identified that "the lines" or rays of the sun were absent. From this simple visual concept that many children use in early drawings, they began to understand that light has energy, waves and movement, that the camera focuses this light through a lens or hole, and that when it interacts with the surface of the film it makes a picture.

Week Two: What's inside the Box? Building on the idea that the camera is just a "box", I wanted the students to open up the "black box" and figure out what's inside and how it works. I bought eight old 35 mm cameras and purchased a number of miniature screwdrivers, usually used with electronics equipment, so that the students could open up the backs of the camera, take off the lens and generally pull the cameras completely apart. A number of girls spent nearly forty minutes patiently unscrewing all of the tiny screws they could locate on the cameras. Two boys, working together just as hard but with more vigor, actually broke one of the screwdrivers in their great excitement to "see inside". The classroom teacher was amazed at the level of concentration that this activity generated and that the students began to see connections with other techno-logical devices. Intrigued with what they found inside the cameras and excited by the opportunity to explore, a few students exclaimed they were interested in "going home and taking apart their computers."

John Dillon and Rangdol Tenzin

Week Three: Making our own Boxes/Cameras. If you can take something apart, you can build it. This activity emphasized the notion that the camera is a box and is something that is made. Using a small how-to booklet containing brass shim stock for various focal length pinhole cameras[5], I constructed one camera with normal focal length, one with telephoto focal length and one with a wide angle. Viewed from the front, the cameras all had the same dimensions, approximately 10" x 12", but when you turned the cameras sideways, the telephoto camera was longer than the normal camera and the wide angle camera was narrower, a very obvious and demonstrable difference. I brought a fourth cardboard camera to show them the basics of the construction and how the film

[5] *How to Make Three Corrugated 8 X10 Pinhole Cameras.*

was placed in the box. I demonstrated how the film was exposed and how this was analogous to the lens and shutter operations on consumer cameras.

We then did an experiment to visually understand what different focal length meant and how it created a different image with each camera. Setting up a bowl of fruit in the corner of the room, I exposed the black and white film in each camera for an hour, having the students and the teacher attend to the time. I returned later in the week with the photographic negatives and corresponding pictures and asked the students to determine which picture corresponded to each camera, stacking the cameras one on top of each other like blocks so that they could clearly see the differences in the dimensions of the cameras. While it was a difficult concept to grasp, they did understand that the rays of light that made the picture had to travel different distances in each camera from the pinhole in the front of the box to the back of the camera where the film was held, and that this is what created the different images. One student also intuited that the pinholes were slightly different sizes and that this was an additional factor that contributed to the different images created by each camera.

Week Four: The Development Process. In traditional black and white film development, a chemical process is used to make a negative out of the film that has been exposed in the camera. To make a print, this negative image is then projected through an enlarger onto specially coated paper in a darkroom and put through an additional process to develop the latent image. I showed the students undeveloped film and negatives in the classroom and explained the process to them, but I wanted them to *see* how a negative becomes a print because it is an understandable and dramatic experience that makes a lasting impression.

To demonstrate the printing process, I took the students on a fieldtrip to a local private high school darkroom that had a number of enlargers that the students could use. While the majority of the class worked on a coloring activity with the classroom teacher in an adjacent room, I took 3-4 students at a time into the darkroom to show them the process; the paper is exposed with light from the enlarger, it is then put into a tray with developer, moved to a tray with a chemical that *stops* the developing image, then moved to a tray that *fixes* the image. I had the students create their own photograms by placing their hands and other materials on photographic paper and exposing this to the light under

the enlarger. They were then able to watch the development of these images through each step. I also printed a 35 mm negative for each group of students so that they could see how the enlargement process worked to "blow up" the smaller negative image to a larger size. The children were fascinated with the development process and were able to take the photograms back to the school where the classroom teacher began a bulletin board about the photography project.

Week Five: Understanding the Camera Lens and making Art. In preparation for taking home a camera to use on their own, I wanted to demonstrate to the students how the modern camera gives a photographer more control of light than a simple pinhole box camera because it has a lens and shutter apparatus. I used my large format 4 x 5 camera to demonstrate how a lens bends and changes the way light hits the film. A photographer is also in control of the light and the construction of a photographic image through the size of the aperture and the speed with which the shutter opens and closes. With a 4 x 5 camera, the change in aperture opening from f/64, which is very small, to f/6.3, which is fairly large, is very easy to see and the students could easily get the idea that less or more light would pass through the lens.[6] I then demonstrated a shutter speed of 1 second versus a shutter speed of 1/500 of a second. I then put together both variables – shutter speed and aperture -- to help the students understand how these two parameters regulate light gathered by the camera.

We also looked at a number of art photographs in the Time-Life Library of Photography, using one volume of the set that clearly classifies photos into themes; landscape, portrait, action photo, and still life, an idea that was easily understandable to the students through the idea of theme birthday parties.[7] When I posed the question to the first graders whether photography was an art or science I got a variety of answers. "It's an art because its like drawing, it makes pictures," said one student.[8] "It's a science because you use chemicals," answered another. After some discussion, the students and I all agreed that we considered photography to be both.

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[6] f/6.3 is about 1" in diameter whereas f/64 is just slightly larger than an"o" in font size 12.
[7] *The Great Themes*, Life Library of Photography, Time-Life Books, 1970.
[8] The discussion of photography as art has had a long history. Early arguments often disputed the fact because of the technological aspect of the process, but today, photography and other "moving images" have taken center stage in the art world. See *Aperature*, 171, Summer 2003 for a discussion of the Guggenheim Museum exhibit "Moving Images" and a brief history of the various influences and convergences in contemporary art photography.

Weeks Six, Seven, Eight: ***Taking their own Pictures***. The students were very excited to take home cameras and start making their own photographs. I purchased six very simple 35mm point and shoot Fuji cameras that had a manual control for advancing the film. The classroom teacher developed a system for rotating the cameras among the students so that each could have one for a week. I loaded each camera with black and white film for thirty-six images and included an instruction sheet for parents in a plastic bag with the camera. I explained to the students that they would not have the various options I had with the 4 x 5 camera as these cameras had a fixed focal length and aperture, and one shutter speed. The classroom teacher and I also decided on a small assignment to give the students some direction and asked them to take a picture of a tree, their car, a shadow on the ground, and their family. I left it up to them to photograph what they wanted with the additional frames of film.

A number of the students had trouble with the cameras because they did not use them in a proper lighting situation. Others had too much help from well-meaning family members and came back with very conventional snapshot images. But many students returned with excellent images and enthusiastically asked if they could take out the camera for another week. As the students returned their film, I developed it at a local lab and printed the "best" of the 35 mm images at 8" x10" to share in the classroom for discussion. My main criteria for enlargement was simply the strength of the image; my methods coming primarily from a class I had taken with Mary Ellen Mark, the well-known documentary photographer. In "The World Observed",[9] Mark asked students to shoot many rolls of film and then critiqued the images by following the students own visual intuition and direction for image-making. Similarly, I would share an image with the students and comment on the way in which they had used the camera, what was the strength of the composition and what I saw them doing with their cameras and their ideas. For example, one student had clearly tried to document the school day,

Alex the Buddy Reader Tenzin Rangdol

[9] *The World Observed* was a class Mary Ellen Mark taught for many years at The Maine Photographic Workshops.

taking pictures of various sports activities, students reading in the library nook and students working around a table. Another student had used the camera to "play" with a friend and had been very creative with capturing action and using different camera angles. I also worked one-on-one with the students, critiquing their work and giving them suggestions for future photographs.

Weeks Nine and Ten: Using Color Film. My original plan was to have the students do color photography with digital cameras and computers, exploring the world of digital imaging in contrast with traditional film. When this became logistically impossible because the school's color printer was not working, I decided to use color film in order to give students the opportunity to understand that color composition includes different choices than shooting black and white images. During the school day, I took three to four students on short field trips around the school campus and in the nearby neighborhood. I explained to them a very basic idea of color theory and loaded the Fuji cameras with color film. These fieldtrips also allowed me to help students who had had trouble with the cameras when they had taken them home.

My Portrait Acacia Jean-Louis

Week Eleven: Photographic Science in Action. The culmination of the science aspect of the curriculum was a trip to the Edgerton Center at MIT,[10] a laboratory and demonstration center that continues the work of MIT professor Dr. Harold Edgerton. Recognized internationally as the scientist who invented the stroboscopic flash, Edgerton also worked with high-speed film and sonar, innovative technologies that allow us to see activities that are usually beyond the ability of human eye to perceive.[11] The Center has an outreach group that provides programming for public school groups of 4th graders and up, but they were also happy to accommodate the first graders and provided an educational and entertaining demonstration. Using the students' participation, the staff demonstrated high speed video, stroboscopic flash with optical illusions and multi-strobe

[10] http://web.mit.edu/Edgerton/www/Intro.html
[11] Dr. Edgerton's famous photographs include the image of a milk drop falling onto a table, "Coronet" and the stopped action of a bullet through a target.

photography with the students in action. The visual excitement was quite high and students also made some very astute connections. At one point the staff had trouble getting some of the computer images to record and decided they needed more light. As they began to move the lighting equipment closer to the subject matter, I asked a couple of students what else they could do. "Open the aperture", replied one student to my great satisfaction.

Firetruck Max Schwigen

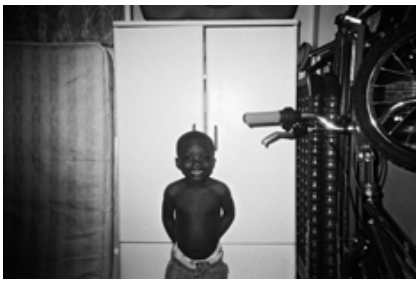
Week Twelve: The School Art Gallery. Our final project for the curriculum was an art exhibit showcasing one photograph from each student. I printed the images to a size of 11" x 14" and curated the show, choosing one of the best photographs from each student and also selecting a variety of black and white and color, as well as a range of subject matter. The students chose titles for their photographs and printed the titles on the work prior to the framing. I hung the work down a central hallway at the school during the last month of school and we organized a reception for the exhibit to which we invited other students, administrators and people who had helped us with the project at various stages along the way. At the reception, the students were encouraged to talk about their photographs to the adults and other students who came to the exhibit.

At the end of the school year, I gave each child a copy of one of their prints to take home. The *Let's Make a Picture* exhibit remains on permanent display at the school, housed in a part of the facility that is dedicated to community activities.

Making the Picture Better

> .. The nature of the image is both a formative process by which meaningfulness is achieved as well as a product of vision or thought by which the essential identity of a thing is grasped… [This] mimic(s) the perceptual process of raw experience itself on all levels… drawing on the phylogenetically older limbic system, which is the basis for our emotional involvement."
> --Marie Seward Barry, *Visual Intelligence*

The metaphor of vision is deeply imbedded is in our everyday understanding notes the anthropologist and folklorist Alan Dundes. "From early memories of playing 'peek-a-boo' or 'showing and telling' in school, the primacy of vision in American culture is affirmed again and again as infants grow to adulthood." For example, we say that "seeing is believing", we greet people with phrases like "see you around" and "it's good to see you", and our national anthem begins with the phrase, "oh say can you see". Even phrases about comprehension are often couched in a visual expression; "It all depends on how you look at it", "I can't picture that", and finally, the phrase that denotes an understanding of common vision, "Oh, I see what you mean". Visual images are potent, and it is no wonder that visual presentations play a key role in advertising, medical diagnosis, courtroom arguments, and other forums in which we persuade and frame peoples' understandings. Yet despite this overwhelming emphasis on the visual in our language and its formative place in our expressive development, and regardless of the fact that most people today get much of their news and information from the television and internet, American schools do not seek to engage and develop visual media skills in the early grades.



Dominic Jessica Pierre

My experience teaching first graders photography over a period of a few months showed that they were emotionally engaged, fascinated with the technology, and could grasp complex ideas and put them to use. I asked many students about how and why they took certain pictures, but one girl's explanation of her brothers' portrait was particularly intriguing and indicated that students would find a way to logically use the information I had provided. She informed me that her mother told her not to take pictures in the living room, but to go into her own bedroom instead. Pressed further with additional questions,

this seven year old told me that she thought the bedroom was too dark to take a picture but she had been able to solve this problem. "There wasn't enough light," she told me, "so I put one up. You know those kind of lights that have shades on them? I took off the shade so there was just the bulb."

Making use of scientific principles to create better art, and using art to understand science were the foundational principles I had started with when thinking through the curriculum. But photography's other various functions also served to enrich the classroom experience for both teacher and student alike. Viewing the students' photographs allowed the classroom teacher a glimpse of how particular children "see", how they view the world and what they think is important. The teacher was also excited to see their home environments and relationships with other family members through their images. Displaying the photographs at the school helped create "community", that elusive feeling of cooperative existence that is so important in public education and difficult to create with a diverse school population.

Untitled #1 John Dillon

Additionally, the pictures allowed the teacher to *see* the students differently. It was clear that some children had definite compositional talents and that many began to see different kinds of light. A great number of their images were well-composed and graphically strong. In the first grade, coloring and drawing are still a requisite part of many assignments, but some children don't want to draw and especially rebel against drawing people. Creating photographs gave students a way to realize their vision and to produce professional and realistic images; they gained a grasp of the visual object which they didn't have with the pencil or pen. Studying the photographic process as a precursor to taking photographs helped students understand that the photographs were a product of themselves rather than thinking that the pictures were a product of the camera, and many students took great pride in the resulting pictures.

This strong emotional engagement with the photographic process is a factor that Ewald uses in her literacy work, and I saw other ways in which educators might use children's vast interest in photographic picture-making and its accompanying

technologies. An early and visceral understanding of how images are produced and how they can affect us emotionally and persuasively helps students understand the power of images. They learn the basic concepts of early media literacy and gain a healthy mistrust of media production. An early introduction allows students to broaden their understanding of the technologies and craft, and increases their level of sophistication. When one boy returned his first roll of film with a picture of an action figure nearly out of the frame, I suggested that he try to position the character more nearly in the center if he wanted to take a picture of the action figure again. His next roll of film showed that he had taken my suggestion and elaborated significantly. I nearly laughed out loud when I saw six frames of film showing two carefully composed action figures, each one depicting a different moment in a battle between the two, an early attempt at animation.

Untitled #2 John Dillon

Over the last 10 years, I have been engaged in visual communications as both a creator and critic. As a critic of visual images, I have come to understand their production within a political and social context. As a producer of visual images, I have used my understandings of how various visual images work -- from video, to photographs, to graphic charts of demographic and statistical data -- to produce projects that advocate for political change as well as persuade people to engage in serious issues. While a single photograph or even a group of photographs may have little power to effect political transformations on their own, visual images are still compelling and powerful when embedded in a broader process.

Untitled #3 John Dillon

Teaching photography as both science and art allows grade school children to actualize their vision and increases their understanding of the use of images, creating a sense of pride and empowerment. The excitement of visual imagery can also help to engage students in scientific subject matter and show them methodologies for investigating other technologies. My interest in *making a better picture* refers to the

localized photography process that produces well composed and thoughtful images but also to the subset of skills students learn when studying photography. The fortitude to ask "why" and the know-how to open up the black box and find out just how something works can be a lifetime lesson.

Bibliography

Barry, Marie Seward. *Visual Intelligence: Perception, Image, and Manipulation in Visual Communication*. State University of New York Press. Albany, New York. 1997.

Dundes, Alan. "Seeing is Believing", *Interpreting Folklore*, Indiana University Press. Bloomington, Indiana. 1980.

Eakin, Emily. "Penetrating the Mind by Metaphor". *The New York Times*. February 23, 2002.

Ewald, Wendy. *Secret Games: Collaborative Works with Children 1969-1999.* Scalo First Edition. Zurich, Berlin, New York. 2000.

Fiske, Edward B. "Controlled Choice in Cambridge, MA". A paper by Century Foundation Press. New York, New York. 2002.

Glaser, Barney G. and Strauss, Anselm L. *Discovery of Grounded Theory: Strategies for Qualitative Research*. Aldine De Gruyte. New York. 1967.

Maynard, Patrick. *The Engine of Visualization: Thinking through Photography*. Cornell University Press. Ithaca and London. 1997.

Newhall, Nancy. "The Caption: The Mutual Relation of Words/Photographs", in *From Adams to Stieglitz: Pioneers of Modern Photography*. Aperture Foundation. New York, New York. 1999.

Pinhole Format Co. *How-To Make Three Corrugated 8 x 10 Pinhole Cameras*. The Pinhole Format Co. Brooklyn, NY. 1999. www.pinholeformat.com.

http://www.cap.ac.uk/. Children as Photographers, Joint Research Project of The University of Birmingham, UK, National Museum of Photography, Film & Television (NMPFT), Bradford, UK, and the Eastman Kodak Company.

Life Library of Photography. *The Great Themes*. Time-Life Books. New York, New York. 1970.

Photography Gallery

Shown here are student photographs currently on display at the school.
In addition, John Dillon's Untitled #1, #2, and #3 are included here.

Snowy Day
Derek Bennett

Little Sleepy Cat
John Dillon

Tamika
Lakeisha Douyon

Ford
Wisford Exilhomme

Cat
Jarred Fernandez

The Arrow
Maty Gonzalez

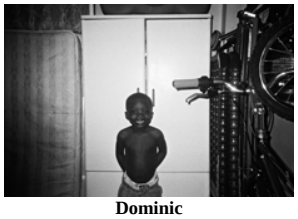
My Portrait
Acacia Jean-Louis

My Cousins
Belle Johnson

Cool Kid
Alex Kulakov

Leaf, Dirt, and Water
Miguel Melendez

The Street Cleaner
Noah Phillpotts



Dominic
Jessica Pierre

Firetruck
Max Schwigen

Alex The Buddy Reader
Rangdol Tenzin

The Dry Valley
Tamika Vincent

Untitled #1
John Dillon

Untitled #2
John Dillon

Untitled #3
John Dillon