Try It – Mini Grant – Sharron Pollack

Project Title:
iLook, Eye See, I Draw – Using an iPad to enhance understanding in drawing

In proposing this project I was reconceptualizing the use of photography in the drawing studio. Professors of beginning drawing, myself included, often discourage students from working from a photograph rather than drawing by direct observation of three-dimensional objects. I decided to embrace the camera as a working tool that might assist students in learning how to look, see, and draw observationally. Perhaps it could nudge students into more conscious looking and drawing with more intention.

Drawing professors generally discourage students from drawing from photographs because the photo gives you less information than your eyes are capable of seeing. Using your eyes gives you the best appreciation for forms in space, whereas drawings from photographs often look very flat. Moreover, when students exclusively work from photographs rather than by sighting from dimensional objects, they allow the camera to do the difficult work of translating complex three-dimensional forms into two-dimensional shapes on the surface of the picture plane. This hijacks the active visual dialogue that occurs when students are purposefully looking with focused concentration, figuring out what they are seeing spatially, and kinesthetically drawing it for themselves.

Some students coming to this class have done drawing before, but in many instances they have only drawn directly from photographs and have never drawn from the objects themselves. These students may have gotten satisfactory results, but they never learned how to develop their own vision in sighting, which is what we strive for in our beginning drawing classes. This translation from 3d to 2d is not an easy thing to do, and even though we teach lots of strategies for sighting in the drawing class students don't necessarily understand or internalize it.

So my proposal was to take something that most drawing professors discourage, and use it instead as a tool for students to help train their eyes. Students trust a photo, so referring to it allows them to see a visual record of what their eyes were seeing.

In my proposal I listed these pedagogical innovations I wished to experiment with and the equipment needed to "try it."

1. Using the iPad as a camera with an enlarged viewing screen.
When doing observational, representational drawing, it is necessary to look at a subject from a fixed viewing point. Traditionally, students are asked to close one eye and try not to shift from side to side when viewing the subject. Yet this is precisely the way a camera operates, with its quick shutter and monocular point of view. Realizing this, I often brought my digital camera into class and asked students who were struggling in their drawing to physically photograph what they were looking at. In examining these photographic images, in which dimensional space has been flattened much as one does in drawing on a piece of paper, the students began to grasp some of the perceptual shapes, angles, and relationships they had previously struggled to see. However, the viewing screen of my camera is very small and difficult to see.

Therefore, I proposed getting an iPad to act as a large-format camera with a sizeable viewing screen. Using an iPad would provide the students with the ability to robustly see the sighting, perspective angles, and other information that is captured on its two-dimensional screen and to annotate it (described in 2 below).

What worked well:

-- Students could hold the iPad at eye level and focus on the subject and photograph it. Students struggling with making the translation from the dimensional to the flat picture plane could see how the camera captured the set-up. After the student captured the image we would talk about what was happening within the image on the iPad screen and compare it to the drawing they were in the midst of developing. We would compare the negative shapes, the angles of objects relative to the edge of the picture plane, and the relation of the objects to each other based on looking at horizontals and verticals; see the shapes as they appeared, especially those objects which were foreshortened; check proportions, etc.

-- I mostly used the iPad to work with those students who had difficulty filtering the three-dimensional setup in front of them and could benefit from a photograph that showed the translation into a two dimensional image. These students were able to see relationships on the iPad screen that they had not been consciously aware of when they were drawing. These students appreciated having this translation to refer to and to nudge them into understanding better what they were seeing. Many "ah ha" moments happened when comparing the captured photo with the drawing. Previously I could point out something in a still life that might need adjustment but the students might say, "That's not how I see it," but with the camera I could literally show them what they claimed to be seeing.

Limitations:

-- Because there was only the one iPad device, students needed to be efficient in using the device then passing it along to a classmate. Students were using the camera image to compare to their drawings and make adjustments and recalibrate. Occasionally I had students use their phone cameras as a tool, although the images were quite small.

-- Students sometimes wanted to use the photo to draw from, not to just use as reference, a situation I had to monitor in order to keep them focused on using the photo as a tool for training their eyes.

-- There might be a way to use an eyepiece like that on a regular camera in association with the iPad so that eye level would have been more accurate, but this would be one more attachment that would then have to be removed prior to fitting the iPad into the Wipad cradle. Students felt they were able to capture an image that was reasonably close to what their eyes were seeing.

-- Depending on the size of the scene being photographed and how close/far a student was from the subject there was some distortion in the iPad lens; it can

capture an edge that our eyes see as straight but appears with slight curvature in the photographed image. There may be an adjustment for this, but it too is likely to be a lens that would attach to the outside of the iPad.

2. Using the iPad is as an annotative device:

Ever since classroom computers and LCD screens were installed in the art studios, I'd been asking ITS personnel about the ability to mark on top of the images in order to clarify concepts for students. Graphically demonstrating various drawing strategies to the class by drawing over images would allow me to clarify concepts of sighting, proportion, and perspective which are crucial to learning to draw representationally. It seemed that providing students the ability to measure and draw over their own images would be particularly advantageous.

It turns out that through an application called Adobe Ideas one can do this. The annotated images can be sent through email and then go into a Power Point. They can also be stored on the iPad and presented to the class with Keynote. I proposed using Keynote in my grant, but I was not able to work on it during the year so will do this during the summer. Most of the annotations I used with the class I shared either one-on-one or in small groups, or I used the Wipad (wireless transmission to be discussed below) to project the images on the LCD screen in our room.

What worked well:

-- Adobe Ideas allowed me to photograph objects in a setup or still life, then draw on top of the photographic images. The ability for me to mark on top of the images helped clarify concepts for the students.

--- Students were able to annotate their own images by going into Adobe Ideas, taking a photo, then marking on top of the images themselves to figure out the concepts we were discussing. The image could not only be looked at and studied, but this technology allowed students to demonstrate their understanding of a concept by drawing on top of the photographed image, then see important sighting information that helped them better structure their drawings. Students made some valuable discoveries in proportions and angles as they marked over the images.

-- Annotation in Adobe Ideas works well when adding additional layers each time you create different colored annotations to represent various drawing strategies and concepts. I could separate out the concepts and progressively add them in layer by layer on top of the photographic images.

Limitation:

-- I needed to show the layered annotations through the Wipad if I wanted the entire class to see those annotations.

3. Proposed to annotate images in real time. Wanted to be able to project this information on the LCD screens already existing in the studio by using the Wipad wireless component.

If a student photographed a subject we were drawing from in class, the image could immediately be overlaid with real-time instructional annotations that graphically added descriptive information for that particular student. By using the Wipad wireless component one could post this information immediately by projecting it on the LCD screens for the entire class to see and benefit from.

What worked well:

-- While it is possible, and valuable, to do the live annotation for the class, it was most feasible to achieve at the beginning of the class when the Wipad equipment was set up thoroughly. When components are needed in the middle of class, one has to go through the steps of reconnecting the various components of the wireless system to do live projection.

Limitations:

-- The Wipad was less intuitive than I was hoping it would be. Fourteen steps/connections must be made/confirmed prior to getting the digital prompt that allows you to make contact between the iPad and the computer and its viewing monitor. Because this was cumbersome, some days we would use the iPad but not bother with the Wipad. Other days I would make certain the wireless system was set up at the beginning of class and only show the information then.

-- If you turned off the Wipad cradle in order to save its battery (our classes are close to three hours long), then you were back to trying to connect the LCD unit's computer again to the wiped signal. I plan on seeking more assistance from ITS or CTTE in the hope of making the wireless component easier to use.

-- Doing some annotations in live time took longer than I realized it would. So I ended up doing more of the annotations in advance of class. While this allowed students to see the principal concepts displayed, they didn't have an opportunity to watch the process fully.

-- Annotation in Adobe Ideas works well if you remember to add additional layers. Sometimes, while doing the annotations in live time, I forgot to separate the concepts into layers and then was unable to single them out while I explained things.

-- The Wipad cradle is not very sturdy, and the iPad would sometimes pop out of the cradle and make the student (and professor) nervous. I purchased a regular iPad case so students would feel comfortable handling the iPad, but this case needed to be removed in order to utilize the wireless Wipad cradle.

-- I need to order another stylus. Ours was sturdy and functional; however it had a relatively wide point, which made it difficult to do drawing that demanded a more intricate tool.

-- The Kensington Green Laser was recommended as a pointer that would show up on top of the LCD screen. But the pointer light was absorbed by the screen. (On the plus side, we found other uses for pointer during our class critiques.)

-- Another one of the things I wanted students to be able to do was to understand gestural marking by drawing on top of a figure. However, this didn't work out for very quick gestures because by the time you photographed the figure and started drawing over the figure with gestural lines, the subject's one-minute pose would be over. There were ways around this by extending the pose or just drawing over a capture.

I informed my class in the syllabi for Fall 13 and Spring 14 that we were going to use technology as a tool in the drawing class. I had someone from CTTE come in midway through the semester to do a mid-semester evaluation, but he felt this was not a good time to canvass students as to whether the iPad was a useful tool, given the format of this evaluation.

In the end, I didn't formally gather the kind of input or feedback from my students that could have let me know more fully and objectively about how useful this technology was to them and how much it helped them better understand observational drawing. In filing this report, I am relying on comments students articulated and the improvements they made in their drawings.

The iPad prompted students to make adjustments and changes in their drawings. It encouraged them to look for relationships between objects, notice perspective angles, and be attentive to the shapes they were looking at, and it especially seemed to help those who may have foundered during their initial mark-making to find direction in their work process. Using this technology helped students understand how observant artists need to be when describing spatial relationships. However, even though the technology helped students understand what they struggled to see initially and to make corrections, there were still some students who had difficulty making drawings that were representationally strong.

Was it worth all the effort? Mostly yes. I think the iPad proved a very useful, large-format camera, and the annotation application produced what I was expecting it to by making obvious the different drawing concepts. Using the Wipad, on the other hand, demanded more setup and digital maneuvering and was less intuitive than I had anticipated, although part of this may have been my technological clumsiness.