My proposal for my Mobile Learning Fellowship was to integrate digital technologies into my printmaking courses. This course combines autographic (drawn) techniques with photographic techniques, involves technical concerns that impact student success and safety, and has a broad, detailed history. Because these processes require specific materials and equipment, class time is largely be devoted to demonstrations and execution of projects. The outside work of the student in their sketchbook preparing for these projects is vital to their success in the course, and their pride in their projects. In order to facilitate better comprehension and preparation, each student was given an iPad and stylus to use for the entire semester. Several different apps were utilized throughout the semester in addition to the typical functions of the iPad, such as the camera.

I began each semester by introducing the course and course content with the following “words for the semester”:

Adaptability and Flexibility

Each of the apps I used, I introduced with the intention that both the students and I were testing the functionality of these apps. I also wanted the students to keep these ideas in mind in working of their prints. It was important to me that in the process of learning about printmaking, and in the process of integrating the use of the iPads into the course, that the focus was on the process, rather than the product. The students were expected to be open to the assignments given, the tools they were given to use (both analog and digital), and their own process, giving thoughtful and critical feedback to me, to their peers, and to themselves as we went along.
APPLICATIONS

In picking apps for this course, I had several priorities. First, I wanted to find a variety of apps to use, without adding confusion by introducing too many apps. Since I was going to introduce several printmaking processes throughout the semester, I did not want to introduce an unfamiliar app at the same time. It was vital that each app used was versatile, stable, and reasonably intuitive for the students to use. During this course, there were five apps that I used primarily. The first two apps were for organization and communication purposes. These apps became the infrastructure for our course, taking the place of a textbook and sketchbook.

The other three were used by the students to prepare their images. Printmaking offers several unique challenges to the student. One being that images are reversed when they are printed. Beginning printmaking students are often frustrated by composing a design, and then discovering it has been reversed in their final project, which can especially be complex when utilizing text or other elements that have a definitive “right-reading” component. The apps used by the students to prepare their images offer the ability to mirror or flip a drawing, allowing the student to compose their image in the correct orientation. Another printmaking component is working in layers, as colors are printed separately. By using sketchbook apps that allow the student to plan for these separations, the students yielded more reliable and anticipated results in their final prints.

EVERNOTE was a very successful app for this course. I used Evernote to post handouts, readings, project descriptions and demonstration notes. By creating a notebook for my course, I added shared access for each of my students, I could share any documents immediately with the course.

Features of Evernote:

• FREE
  I began to use Evernote for so many aspects of my teaching and personal organization that I have upgraded to the paid subscription version, but the free version is sufficient for most students.

• MULTI-PLATFORM
  I didn’t want students’ access to their notes to disappear when they turned in their iPads at the end of the semester: Evernote is available on multiple platforms, as an app, or a desktop tool.

• ASSOCIATED APPS
  Evernote has associated apps Penultimate and Scannable, which can be used for note-taking and scanning documents.

SLACK was used as a digital sketchbook for the students. In Slack, I created a public thread that was shared by all the students in the course, as well as private threads that were individually shared by each student and myself. Within each thread, students could
post their sketches, links to websites, photographs taken, and any other collected source material. They could also post questions, which would immediately be posted to our shared feed. I was able to answer questions much more quickly and easily, referring to posted images, than communicating via email. This allowed the students to get better and faster feedback as they worked on preparation for their projects.

My intention with the public feed was that students would be able to communicate more with one another and post questions or sources for peer-to-peer feedback. I also envisioned posting reminders via this feed. This feature was less used than the private feeds, even by myself. In the future, I will either eliminate the public feed, or put more concentrated effort into its use, including more specific assignments regarding posting and discussion on this feed.

Features of Slack:

• FREE
• MULTI-PLATFORM

As with Evernote, Slack is available on multiple different systems and formats, which will allow the students to continue to access the posted information on Slack. Slack is a good tool for any format of group communication, so they could also create their own feeds for future projects with other peers.

ADOBE® PHOTOSHOP® SKETCH, ADOBE® ILLUSTRATOR® DRAW, and ADOBE® CAPTURE were used for sketching and preparing work for their prints. Adobe® Photoshop® Sketch was the primary app students used for sketching and preparing work for their prints. The app allows for students to import photos, work in layers, and manipulate images. This app also allowed students to work from various source images, break their images down into layers of information, try variations to color and composition, and importantly, reverse their image before using it to prepare their plate. There are a variety of “brushes” in this app, which also allowed the students to use a variety of marks, which could be altered to best imitate the print process being used. The app also allows adjustments to transparency, further helping the students prepare for the printing process, which uses fairly transparent ink.

The Adobe® Illustrator® Draw app has similar functions to Adobe® Photoshop® Sketch, but also synced with stamps made in Adobe® Capture, which allowed the students to duplicate images and patterns made in Adobe® Capture, and further manipulate them.

Adobe® Capture utilizes photographic imagery to make stamps, patterns, and color themes. This app was a fun and easy way to derive imagery from photographs for use in the students’ prints.
Features of Adobe® Photoshop® Sketch, Adobe® Illustrator® Draw, and Adobe® Capture:

• **FREE**
  Students must create a user ID, but unlike the full desktop Adobe® software, the iPad apps are free.

• **ADOBE® COMPATIBLE**
  The iPad apps are not as comprehensive as the full desktop Adobe® software, but utilize much of the same language, set-up, and are compatible with other Adobe® software, including a number of other free apps. For students that intend to continue their education in design, these apps give a good baseline understanding of software that will be integral to their future education and career.
Overall, implementing the use of digital technologies, and in particular, giving students access to the iPads, with associated apps for the semester was widely successful. Students were able to develop imagery and comprehend some of the technical issues in preparing to make their prints with much more ease than had they not had these tools. My initial proposal also strongly emphasized increasing the students’ use of a sketchbook, which is an integral component of an artist’s development. The students did use the iPad as a sketchbook, and were also able to catalog resource information more thoroughly, which I believe better mirrors a contemporary, professional understanding of a sketchbook. The collection of ideas, influences, source materials, along with drawings and self-generated material shows a more well-rounded view of the students’ thought processes. The online sketchbook also allowed me to check in more frequently with their progress and process, and confirm that they were moving ahead as needed.

In evaluating the use of the iPads, I administered a survey towards the end of the semester, which asked the students several questions pertaining to the use of the iPads in our course. The results are useful, but the participation was not 100%. The downfall of integrating the iPads and various apps so completely into our course, is that we very rarely used the Walters State Community College eLearn platform, where the survey was housed. If I were to survey these students again, I would find an app or link that could have been integrated into the Evernote notebook or Slack feed, and I potentially would have gotten a more thorough survey pool. However, the results I did receive and fairly similar, and do well represent the effectiveness of the project.

Survey Questions:

**QUESTION 1**: Students were given the statement: *Before this class, I worked regularly in a sketchbook.*

- 8/10 answered True
- 2/10 answered False

**QUESTION 2**: Students were asked to pick from a list of selections regarding their sketchbook use during the course. The results are shown in the following graph:

7/9 students either sketched more, using the iPad, or sketched about the same as previously, but used the iPad more than their previous sketchbook.

**QUESTION 3**: Students were asked: *Describe how the iPad added to your sketching or preparatory process for this class.*

- The iPad made it easy to sketch quickly and effectively. Where as, there is a certain commitment to draw a more complete drawing with paper. The iPad helped me sketch moreover efficiently and use my time better.

![](Sketchbook examples of layered imagery)
The iPad helped tremendously when preparing for an assignment. Printmaking in particular had many projects that would’ve been difficult to plan and process out without the iPad. We had some projects that were made in layers and the iPad helped us to plan them separately and then merge them together.

- It was nice not having to erase pencil marks on paper and the iPad. I seemed to draw more on my sketchbook though.
- It helped me picture layers better and I don’t usually use color when I draw, so it was nice to have an unlimited color palette.
- It helped me get an idea of what I wanted to do for my projects in class and let me do everything in layers on an app. That helped out a lot.
- It allowed me to easily make a variety of sketches and plan how I wanted my print to look without having to redraw multiple times.

The iPad allowed me to do more planning in aspect to color. While my sketchbook is more personal to me, it's impractical in comparison to the iPad for sketching fully layered ideas. With my iPad I was able to do so much more in less time which in turn caused me to push ideas way further. Not only that, also I could let go of ideas that weren’t working since I could just go back a layer and start again with ease. I learned things from my printmaking sketches that I’ve taken and applied to other forms of media, such as painting.

Examples of a variety of sketches in preparation for the print seen above

- We could use the iPad to make collages for some of our prints. We also played around with the scales of the images to get the unique composition for a pieces. We would research for our projects and sort of get a feels for what we needed to do.
- Erasing is a breeze and doesn’t leave erasure marks. Variants are created quickly and easily. iPad sketching is great.

**QUESTION 4:** Students were asked to rate the usefulness of the apps used on a scale of 1– 5, 1 being the most helpful, 5 being the least helpful.
QUESTION 5: Students were asked: Which other apps did you use in connection to this course, and how did they help your progress in the course?

- Adobe® Capture and Express were super helpful. Capture made it fun and easy to create patterns for our relief prints. It was easy to make multiple patterns and see what they looked like before deciding for our prints. Express was good for editing size, contrast, and highlights for prints.
- I stuck to the main apps for sketching but they were very interesting and helped me plan out all of my complicated prints.
- Adobe® Capture was nice. I’m very glad to have because I don’t think I could make as nice patterns as the app did.
- I downloaded a variety of drawing apps, just to test them out with their brushes and I seemed to like them very much. Paper 53 was my favorite.
- Adobe® Photoshop. It allowed me to manipulate the subject, photo, of my artwork easily so that I was better able to make my print.

Me and the notes accessory (if that’s an optional app) became best friends. I include a lot of writing and references in my sketchbook, and the iPad completely surpassed that usefulness. I was able to keep photos and notes completely organized and neat and in technicolor. No color printers and fancy pens. The availability to switch in and out of my drawing apps, my notes, everyone’s notes in Evernote and slack, it all was very helpful.

![Example sketch with notes.](image)

- I used a different variety of drawing apps, that I personally liked. The only reason why I used them was because I was already used to their functions so it was easier for me to use.
- I used Adobe®Photoshop mostly when I wanted to create a design out of one or more pictures. It was very useful to blend layers, change the look, and even create something new entirely.

QUESTION 6: Students were asked: What problems did you have using the iPad (either with accessories, the iPad itself, compatibility with programs or apps, or any other issues)?

- Connecting to the internet was my biggest issue. It didn’t want to connect or stay connected on campus and you can’t use the without wifi. The pictures were an alright quality. There was an app that would have been helpful or; at least, fun to try out that was free for a time but because of how old the iPads are, it was not. The screen protector made sketching hard and there was a slight calibration issue. It would always mark slightly above where I wanted. Not that bad, it was easy to adjust my hand to correct it.
- The pens that we were given didn’t work very well. I couldn’t draw with it and I ended up using some sort of other tool instead. Otherwise, I had no problems.
- The apps felt artificial and hard to use but one could get used to it. The stylus stop working for me about 2-3 week into the semester. The iPad screen made it near impossible to draw especially with the given stylus.
- The stylus messed up after awhile... And the iPad could be very slow at times but I think it’s just the edition.
- The iPad was slow. The apps had a difficult time connecting to the internet. I was also naive with how to use it and felt more comfortable with my sketchbook.

  *The stylus was a weird transition. It doesn’t always allow the control you need for a sketch. Even still, once you figure out ways to manipulate it, it isn’t an issue.*

- Sometimes the iPad would stop working for no reason and the apps sometimes got a little glitchy and just didn’t want to work.
- The iPads are garbage when it comes to multitasking. The ram is crap. The processor is slow. We need “iPad 4” at LEAST to keep up a productive workflow most of the time.
- The iPad ran very slow, glitched out a lot, shut off at random, and towards these last two weeks, I cannot open a few apps.
QUESTION 7: Students were asked: In general, what are your thoughts regarding the integration of the iPad in this course? What worked and what suggestions do you have?

*The iPad was super helpful. It made sketching and staying connected with classmates through Slack easy. It allowed for us to connect in the classroom and electronically, creating a comfortable learning/working environment. Staying connected with Jessie was convenient and hassle free. All in all, I’d say the iPad is great for Printmaking. I suggest newer ones would be more helpful, at least for connection issues.*

- I think the iPads were very useful and the class wouldn’t excel the way it did without them. Of course it would be possible; however, all the processes of each project would be slower and the class as a whole would not have been taught as many techniques that were offered this semester.
- I like the iPad, but I would like to have a sketchbook on the side too.
- I liked using the iPad. It would be nice to have a better stylus that could work through the screen and maybe a more realistic feeling drawing app. Though the Adobe® apps are not as bad for me as they were in the beginning of the semester. But overall, it was nice to have the iPad, it helped a lot during the semester.

*Using the iPad in this course was fun and very informational. If we didn’t use this iPad, I don’t know were our prints could have gone. I loved every assignment she gave us for the iPad which was every assignment. I would recommend maybe a small sketchbook in case the iPad wouldn’t work or just if someone really didn’t want to use the iPad they would be set.*

- I think this helped out a lot throughout the course and I would have had to take a lot more time on my sketches if I didn’t have the apps that let me do things in layers and erase things completely.
- I think the iPad is a great tool if you can use it. I had a difficult time because I wanted really precise lines and while others were able to get them, I was not and just wanted to draw on in my sketchbook. The iPad is great to figure out colors and to manipulate the artwork.

*I think it’s the most practical approach you could have for artists in an advancing technological world. It allows that extra mental push to ideas. I think it will allow students to be more exploring in what they’re trying to create and it allows this linear path to find it. My suggestion is that if the iPads become a continuous integration, that exploring is pushed even further.*

- I’m glad I had the iPad to plan.
- Overall, I loved the iPad use in this course and think it should continue into future classes. I think it made every process we did much easier. The only thing I did not like it that a lot of people seemed to have issues with them lagging, shutting off, turning to a black screen, and just freezing up. Even with these issues however, I would highly recommend the iPad to continue to be used in this class.

**SUMMATION**

I was extremely happy with the results of my Mobile Fellowship. I saw great progress in the students, and was thrilled with the results they achieved in their prints. It was clear that the integrated technology helped them in preparation, kept them on task, and clarified potential technical pitfalls. I hope to continue teaching this course, with the opportunity to extend the use of iPads to the students. As noted in the students’ feedback, the primary flaw with the program was version of the stylus provided, and the iPad model and generation. Regarding the stylus in the future, I will likely research a wider range of styluses, and hope to provide the lowest end model to the students, but advise them to consider investing in a higher model. Regarding the iPads, it is unlikely that students would have the resources to invest in their own iPad. Currently available from Walters State for the semester-long loan are iPad 2 models. There are several features missing from this model, that are available on newer generations of iPads. The most notable are AirDrop, which I had hoped to use to allow students to send images directly to our classroom computer for printing, as well as other sharing opportunities, and the ability to mirror to the Apple TV. I had hoped during discussion sessions, students would be able to share their screens to our classroom projector and Apple TV, for greater opportunity to discuss ideas and problems. Generally, the older model made for some compatibility issues with apps, work flow, and general stability of the model. In the future, if newer models of iPads are not available for the students to check out for the entire semester, I would like to at least supplement the classroom with newer models on an iPad cart, to be used in the classroom. In the spring semester, the potential to purchase a dedicated iPad cart for the Art Department was discussed with Walters State’s IDT department, but this did not come to fruition in the 2016–2017 academic year. I hope it is something to revisit in the future. In preparing our students to be productive members of a professional artistic community, it is vital that we expose them to as many tools as possible, both those dating back to the 1500s, and the ones reaching into the 21st century.