Using iPads in Undergraduate Comparative Politics

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Abstract – Most studies on technology in the classroom relate the use of digital materials and mobile technology to learning outcomes defined separately from that technology. This study uses as a starting point the notion that digital materials and mobile technology are not simply tools to enhance learning. Rather, they are prominent features of the modern information landscape. They are therefore crucial tools for student success inside and outside the classroom, and proficiency in their use is a learning outcome in and of itself. So assessing student responses to different ways of incorporating digital materials into the learning experience is perhaps as important as assessing the impact of those materials on traditional measures of learning outcomes. This study assesses the impact of mobile technology on the consumption of digital materials in a small group of students (30 total). The major preliminary findings of the study are that (1) students’ interest in consuming digital material increases with exposure to that material, regardless of medium, (2) their interest in consuming digital material increases further as they are exposed to iPads, (3) their actual consumption of digital material increases as they are exposed to iPads, (4) the effects noted in (2) and (3) increase with time exposed to iPads, and (5) lack of infrastructure is the most significant obstacle to students attaining maximum value from the use of iPads.

This study seeks to evaluate the utility of iPads in improving student learning and to identify specific applications and uses of the iPad for meeting education goals (Center for Faculty Excellence). It seeks to offer a small, incremental improvement in our understanding of how students respond to technology in the classroom – specifically iPads. The key question the study seeks to answer is: How does the use of iPads impact students’ attitudes to course material and learning in general? In order to answer this question, the study asks five related questions:

1. How do students respond to reading digitally as opposed to reading in traditional formats like handouts and books?
2. How does having an iPad impact student responses to reading digitally as opposed to reading in traditional formats like handouts and books?
3. What additional uses do students put iPads to?
4. What factors inhibit students’ maximizing utility of iPads?
5. What ancillary benefits can we gain from iPads inside and outside the classroom?

Much of the relatively limited literature on the impact of iPads, and e-readers specifically, on academic performance is negative (Gertner, 2011). However, e-reading and the digitization of learning is a fact of modern life: 23% of Americans 16 and older read an e-book in 2012, up from 16% in 2011,
while the equivalent share having read a print book declined from 72% to 67% (Ranie & Duggan, 2012), suggesting that e-reading is trending rapidly upward vis-à-vis more traditional forms of reading. Rather than ask if students learn as well from e-reading as they do from traditional reading materials, this study attempts to ask how students respond to different digital reading formats and platforms, and consequently how we might help students develop the ability to thrive academically in an increasingly digital world.

**iPad implementation and study methodology**

This study was executed in four phases. First, I developed a partially digital syllabus for SS377 (Government and Politics of Europe). I also put the entire course schedule, including hyperlinked readings and discussion questions into a Microsoft Outlook calendar.

Second, I gathered data on attitudes toward digital course material from students without iPads. At the outset of AY13-1, neither section of 10 students had iPads. I conducted surveys of students following block I and block II of the course and recorded survey data. Survey questions included standard questions about the course, questions about digital readings habits, and questions about preferences among readings. Also included were open-ended questions about the course materials and the use of iPads.

Third, I gathered data on attitudes toward digital course material from a treatment group of students issued iPads midway through the semester – half of the cohort of students. At the conclusion of block II, one section of 10 students was issued iPads. Students were issued the iPad, a wireless keyboard, a stylus, and a cover. Students were not directed to purchase any specific apps, or to do anything in particular with their iPads. At the conclusion of blocks III and IV, students were administered the same surveys. The students had to zero out turn in their iPads at the end of the semester.

Fourth, I gathered data on attitudes toward digital course material from a treatment group of students issued iPads at the outset of a semester. Prior to starting class in AY13-2, I issued iPads to each of my SS485 (Development and Politics of Sub-Saharan Africa) students. Students were issued the iPad, a wireless keyboard, a stylus, and a cover. Students were not directed to purchase any specific apps, or to do anything in particular with their iPads. The SS485 syllabus was also hyperlinked, with readings and discussion questions in an Outlook calendar. If a student desired to, he or she could have the entirety of the course on their iPad. I administered the same surveys to these students at the conclusion of blocks I and II, with the addition of an iPad specific survey.

**Student Attitudes toward Digital Course Material**

Initial data suggested that students are rather ambivalent about the use of digital material in the classroom. For example, after block I, when no students had been issued iPads, students reported doing 33% of their reading digitally, and desiring to do 41% digitally. How did having an iPad impact students’ attitudes toward digital material? How did merely being sensitized to digital material by having a digital syllabus that was also available in students’ outlook calendars seem to affect those same attitudes?
**Measured Effects**

Students in the control group demonstrated an increased interest in digital course material over the course of the semester (see figure 1). Even in this group, whose members were not issued iPads, the student rating of materials available only in digital format via hyperlink in the course syllabus, trended upward over the course of the semester, especially in comparison to the two other forms of readings – readings available digitally or in traditional format, and readings available only in traditional format.

![Figure 1: Average Student Ratings, Digital, Optionally Digital, and Traditional Only readings, by course block.](image)

While expressed preferences for digital over traditional reading were less clear, there was a very slight upward trend over time:

![Diagram showing % Digital and % Pref. Dig.](image)
So, even without being issued iPads, over the course of a semester in which they are sensitized to digital material with a digital syllabus, students’ attitudes toward digital material improve, and they do a greater portion of their reading digitally. Is this effect more significant among students who are issued iPads? Is there a difference in effect due to when students are issued iPads – at the outset of the semester or midway through?

There is certainly a marked difference in the percentage of reading that students do digitally (see figure 3). Students who were not issued an iPad at all did approximately 40% of their reading digitally. Those who were issued iPads midway through the semester did approximately 55% of their reading digitally, while those who were issued iPads at the outset of the semester did over 80% of their reading digitally. This provisional finding suggests that having an iPad increases the likelihood of a student reading digitally, and that having the opportunity to integrate an iPad into a student’s academic rhythm from the outset of a semester makes doing so significantly more likely.

Figure 3: % of total reading done digitally, student estimates.
Not only did students do more reading digitally when they had iPads, they also expressed a greater desire to read digitally when they had iPads:

![Graph showing % Reading Preferred Digitally](image)

Figure 4: % of total reading students would prefer to do digitally.

Perhaps more interestingly, having iPads seemed to impact students’ broadly expressed preferences in terms of reading format in an ambiguous way (see figure 5). While both the percentage of reading done digitally and the percentage of reading that students would prefer to do digitally was higher for those students who received an iPad during the term than for those who did not, and much higher for those students who received an iPad before the term, differences in actual digital reading and preferred digital reading tell a slightly different story. Students without iPads express wanting to do about 5% more reading digitally, and students using iPads throughout a semester express wanting to do about 2% more reading digitally. This is consistent with the hypothesis that students are generally open to the idea of reading digitally, they do in fact do so considerably more if given the appropriate tools, and their appetite for additional digital reading starts to taper after a certain point. However, the fact that students who were issued iPads mid-semester expressed a desire to do slightly less digital reading suggests that perhaps the disruptive effect of injecting new technology has something to do with the decreased performance associated with the use of technology in the classroom. In other words, perhaps it is a learning curve issue.
However, students’ preferences for specific materials (disaggregated by reading and then aggregated by type), show a preference across the board for readings only available in digital form (see figure 6). The difference is most pronounced among students without iPads, and the difference between student ratings of digital only readings and their ratings of readings they can do either digitally or traditionally shrinks with more exposure to iPads. This likely is due to the fact that iPads offer a specific advantage in consuming materials in the “digital optional category” – e-books generally – whereas the .pdf documents available on JSTOR can be consumed easily on a computer, on an iPad, or printed.
Informal sensing sessions and text analysis of student responses to open-ended questions also provides some insight into specific uses of iPads in class. There were two main features that stood out in sharp relief: first, students found iPads to be valuable as note-taking tools. One student said “it is really easy to take with me and take notes whenever and wherever I want. Sometimes a thought will just hit me, and I can record it or take notes.” Other students specifically highlighted the ability to integrate several requirements: “stay[ing] organized and on track with the lessons” (students used the syllabus as outlook calendar concept to support this), as well as the ability to read, take notes, and look up unclear concepts on the same device.

Additional Uses

One survey question asked students to identify ways they used the iPad beyond the course that they found academically or personally valuable. The most frequently used words in the responses were “articles” and “books.” Students reported that the ability to highlight and take notes in books without having to carry around multiple books supported both studying and research. Students also reported using the iPad to keep up news, as well as to do leisure reading and play games.

Factors Inhibiting Students Deriving Maximum Utility from iPads – What We Can Improve

In an open-ended question asking students what they found to be most problematic about their iPads, and what improvements they would suggest, the most frequently used words were “West Point” and “Capability.” The most frequently and enthusiastically discussed problem was wireless connectivity. Students reported only having it in roughly 50% of their classrooms, and not in the barracks. Students also reported a desire to be able to access their USMA email via their iPads. Students also identified file transfer as a problem, specifically difficulties associated with Apple/Microsoft interoperability. Perhaps the use of windows or android tablets as opposed to iPads would alleviate this problem.

Additional Uses – Some Preliminary Thoughts

In addition to studying students’ use of iPads, I investigated some ways to use the iPad to improve my own learning. I identified the following opportunities that are likely transferrable to students outside of comparative politics:

1. **Language**: there are some very significant opportunities in this realm. I went from no exposure to scoring 2+/3 on the Portuguese DLPT in three months using exclusively mobile technology. The primary tool that I used was an application called busuu. Busuu functions similarly to software that DoD has used in the past, such as Rosetta stone (flashcards, sound, images), but boasts several advantages, foremost among which is cost – I completed the entire program for under $20. Payment is incremental as well, so the up-front investment is $0. Busuu also combines the written word, images, and sound to immerse users in native dialogs. Finally, busuu allows learners to test knowledge in two separate ways: first, a “traditional” mobile technique of multiple choice, matching, and fill-in the blank. Second, and most interestingly, learners respond
to open-ended questions by writing in the language – so they produce from the outset – and their written responses are corrected by native speakers. This feature is crowd-sourced – when I sign up for busuu I list the languages I know and those I am learning. When someone submits an assignment in my native language, I am invited to correct it. As a learner, I actually get multiple corrections for a single assignment. In addition to busuu, I used a combination of my iPad and mobile devices to read Brazilian and Portuguese newspapers and later novels (leveraging the dictionary feature in Kindle), and to listen to Portuguese-language podcasts.

2. **News and Analysis**: I used the iPad to read the New York Times, the Economist, the Financial Times, Le Monde, El Pais, la Stampa, and Epoca. This allowed me to conveniently keep up with professional news and maintain language skills.

3. **Real-Time Practical Exercises**: I could also share interesting articles related to lesson material with students directly in class, rather than print out handouts. We could then discuss new material and relate it to theoretical material from the course in real time.

**Works Cited**

Center for Faculty Excellence. (n.d.). *The iPad Pilot Study at West Point*. Retrieved April 17, 2013, from United States Military Academy, West Point, Center for Faculty Excellence: http://www.usma.edu/cfe/SitePages/iPads.aspx
