Center *for* Distributed Learning

2014 UCF Mobile and eTextbook Survey Report

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INNOVATION EDUCATION TRANSFORMATION

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Executive Summary

Mobile technologies are playing an increasingly important role in college students' academic lives. The New Media Consortium's 2014 Horizon Report listed mobile apps and mobile learning as key emerging technologies that have potential relevance to teaching, learning, and creative inquiry in higher education (Johnson, Adams, Estrada, & Freeman, 2014).

To appreciate the landscape of this emerging technology on campus, a comparative study on adoption of mobile learning and eTextbooks at the University of Central Florida (UCF) was conducted. In 2012, UCF's Center for Distributed Learning (CDL) distributed the first survey to students and 933 completed the survey. The 2012 survey report can be downloaded at: http://mobile.cdl.ucf.edu/?p=60

A follow-up survey was distributed in Spring 2014. A total of 1181 students completed the survey. These students were enrolled in 83 online, mixed-mode and face-to-face classes in Spring 2014 at UCF. The participants surveyed represented 12 different colleges with 91% being undergraduate and 68% being female.

The survey includes both closed and open-ended questions which are based on existing research and surveys previously distributed by the university. It was structured in two main categories: mobile learning (devices and apps) and eTextbooks. Topics include device ownership, access, and beliefs towards the technologies concerning areas such as learning, sense of community, and engagement. Student responses to this survey will allow us to gauge a baseline for usage and beliefs at UCF, compare the results with the 2012 survey, and shape the next course of action.

Key findings of this report include:

- Ownership of mobile devices is high and continues to increase among students.
- Student level, sex and age were demographic factors relating to ownership of mobile devices.
- There is still a large difference between instructors requiring the use of mobile devices in coursework and students reporting the use of mobile devices on their own for learning.
- Age, student classification, and race emerged as demographic factors relating to student-reported use of mobile devices, tablets, and e-book readers for learning purposes.
- 66% of students (n=781) indicated that they had used a mobile app for learning at least once each week.
- Students reported limited instructor support for using mobile apps/devices in coursework.
- 60% of students (n=707) reported using an eTextbook at least once in their college studies.
- Student level and sex emerged as demographic factors relating to eTextbook usage.
- Most students believed they possess the technical and study skills to use an eTextbook but were mixed about learning effectiveness, engagement, and sense of community.

This report is structured in three sections: mobile device general ownership and usage; mobile app usage and beliefs; and eTextbook usage and beliefs. Recommendations for future action are proposed in the conclusion.

Mobile Device Ownership and Usage

General Ownership

Ownership of smartphones is high at 95% (Figure 1). Most students own at least one iPhone (66%) or Android (30%) (Figure 2).

Ownership of tablets and e-book readers is relatively low when compared to smartphone devices.

Tablet ownership is at 57%. Most students own at least one iPad (36%) or Android tablet (21%) (Figure 3).

E-book reader ownership is at 29%. Most students own at least one Kindle (18%) or Nook (10%) (Figure 4).

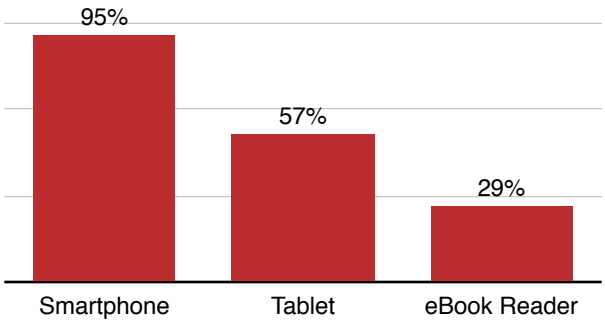


Figure 1: Device Ownership

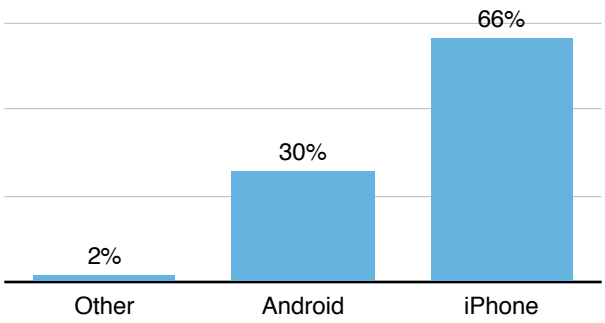


Figure 2: Smartphone Ownership[1]

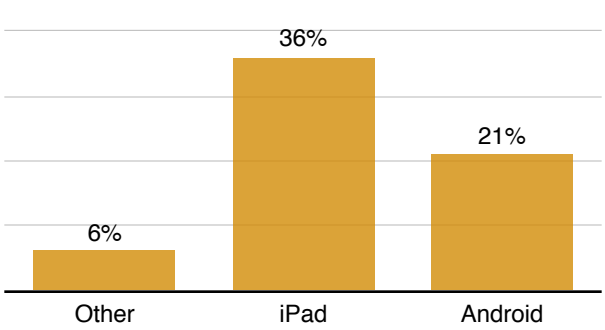


Figure 3: Tablet Ownership[2]

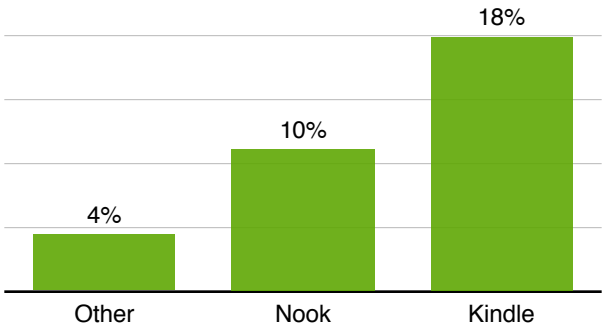


Figure 4: E-Book Reader Ownership[3]

[1] 3% own multiple smartphones
[2] 6% own multiple tablets
[3] 2% own multiple e-book readers

Student level, sex and age (18-64) were demographic factors relating to ownership of mobile devices.

- Undergraduate students reported owning more tablets than graduate students.
- Male students reported owning more tablets and e-book readers than female students.
- Younger students reported owning more smartphones than older students.
- Older students reported owning more tablets and e-book readers than younger students.

General Usage

There is a large difference between instructors requiring the use of mobile devices in coursework and students reporting the use of mobile devices on their own for learning (Figure 5).

- 19% of students reported that their instructors asked them to use a smartphone (e.g., iPhone, Android Phone) to complete an assignment.
  - 73% of students reported using smartphones on their own for learning at least once a week.
- 13% of students reported that their instructors asked them to use a tablet (e.g., iPad, Kindle Fire, Android Tablet) to complete an assignment.
  - 45% of students reported using tablets on their own for learning at least once a week.
- 6% of students reported that their instructors asked them to use an e-book reader (e.g., Kindle, Nook, Sony Reader) to complete an assignment.
  - 17% of students reported using e-book readers on their own for learning at least once a week.

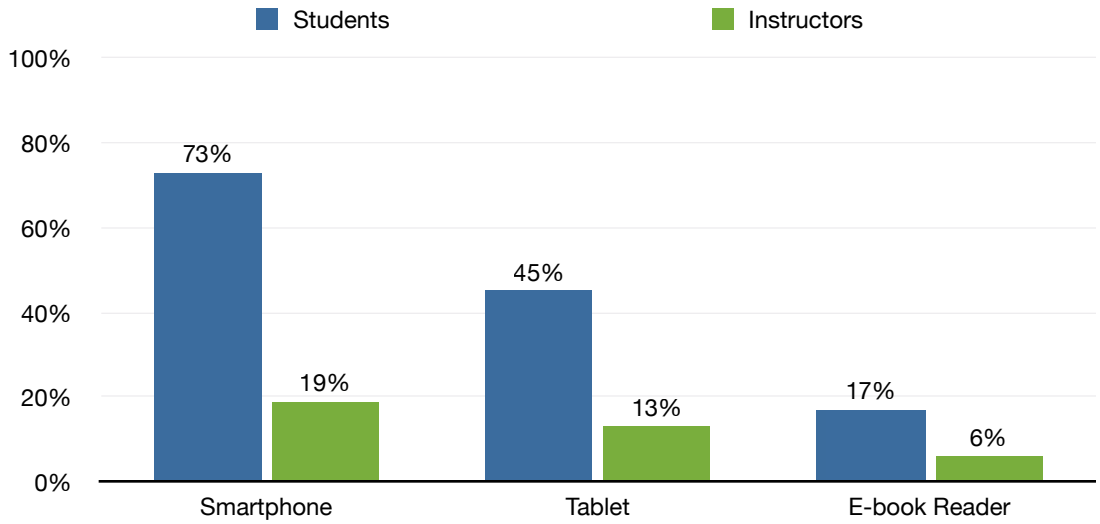


Figure 5: Student Usage to Instructor Requirement of Devices for Assignments (N=1181)

Age (18-64), student classification, and race emerged as demographic factors relating to student-reported use of mobile devices, tablets, and e-book readers for learning purposes.

- Younger students reported using smartphones for learning more than older students.
- Older students reported using tablets and e-book readers for learning more than younger students.
- Freshmen, sophomores and juniors reported using smartphones for learning more than seniors and graduate students.
- Juniors, seniors and graduate students reported using e-book readers for learning more than freshmen and sophomores.

Mobile App Usage and Beliefs

Student Use of Mobile Apps

66% of students (n=781) indicated that they had used a mobile app for learning at least once each week. The use of apps in students' personal lives is extensive and varied. Students selected the app categories that they used most frequently (Figure 6).

Race is the only demographic factor which related to students' reported use of mobile apps for learning purposes. Students identifying as Caucasian reported using mobile apps for learning less than other races.

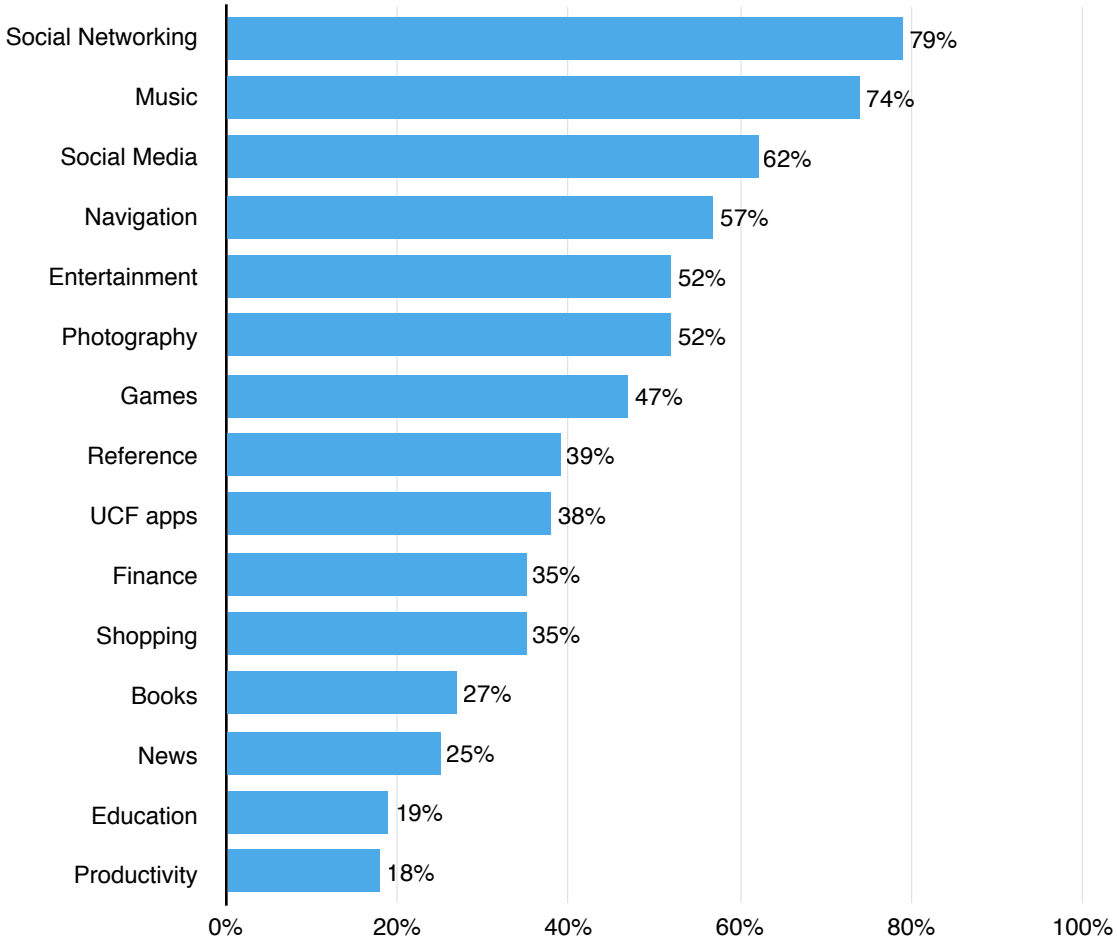


Figure 6: Most Popular App Categories for Student Personal Use (N=1181)

When asked how often students use UCF apps for learning:

- 65% responded that they use Canvas Mobile for learning.
- 55% responded that they use UCFMobile (http://ucfmobile.ucf.edu) for learning.

When asked how students would like UCF to use mobile apps/devices in the future, these areas were most identified:

- MyUCF - 78%
- Maps - 62%
- Events - 61%
- Coursework - 58%
- Social Media - 54%
- Library Services - 53%

Instructor Support

39% of students (n=458) indicated they would like their instructors to use more mobile apps or devices in coursework. However, students reported limited support from instructors who are using mobile apps/devices in coursework.

- 25% of students reported their instructor provided instruction on how to use the mobile app/devices in coursework.
- 19% reported their instructor modeled the use of mobile apps/devices in class.
- 16% reported their instructor clearly stated the requirement of using a mobile apps/devices in coursework in the course syllabus.

In a follow-up question, the top reasons given for not wanting instructors to use apps/devices include:

- Lack of technical support: 35%
- Limited Funds: 24%
- Limited or no access to mobile devices: 21%
- Limited or no access to training: 19%

Beliefs

Using a 5-point Likert scale from “strongly agree” to “strongly disagree,” students were asked about the use of mobile apps/devices for academic purposes. Students (N=1181) agreed or strongly agreed to the following items:

- Easier to access coursework: 72%
- Increases communication with other students: 65%
- Increases communication with instructor: 60%
- Increases my knowledge in my field of study: 48%
- Improves my quality of work: 43%
- Increases motivation to complete coursework: 42%

eTextbook Usage and Beliefs

Usage

60% of students (n=707) reported using an eTextbook at least once in their college studies (Figure 7). Among these students, multiple types of eTextbooks were used.

- 72% had used an eTextbook which had basic features like highlighting and annotations.
- 48% had used an eTextbook which was a PDF (replica of the print version).
- 28% had used an eTextbook which contained interactive elements.
- 24% had used an open eTextbook (free and available online).
- 6% had used an eTextbook that was created by the instructor

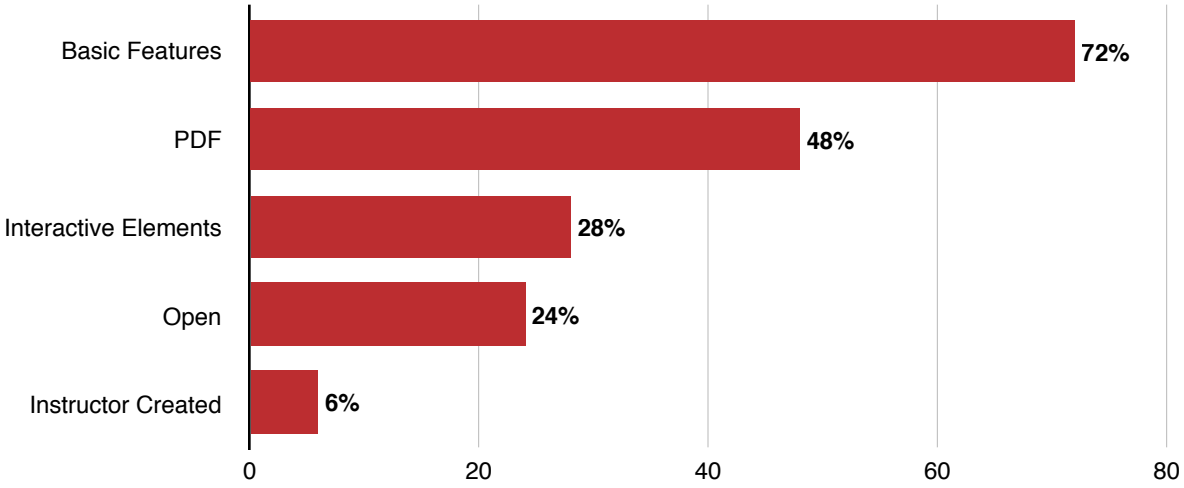


Figure 7: Types of eTextbooks used at least once by students

- 61% indicated they had purchased at least one eTextbook, while 49% indicated they had rented.
  - 33% obtained eTextbooks from the campus bookstore.
  - 70% obtained eTextbooks from an online retailer.
  - 30% obtained eTextbook that was bundled with a print book.
- 49% were required to use the eTextbook in their course by the instructor.
- 40% first became aware of the eTextbook option on their own, while 12% heard about the option from peers.
- Low cost (78%) and ability to access the textbooks anywhere (66%) were top factors to influence the decision to adopt an eTextbook.

Student level and sex emerged as demographic factors that related to eTextbook usage.

- Seniors used eTextbooks more than any other grade level.
- Male students were found to use eTextbooks more than female students.
- There were no significant differences found regarding GPA, college or discipline, full-time/part-time status or undergraduate/graduate status.

Of all students (N=1181), including those who have used or not used an eTextbook in their college studies:

- The top reason why they would not use an eTextbook was the preference for print textbooks (42%).
- Around 10% indicated that they were not familiar with eTextbook or were unaware of the eTextbook option.

Students used computers most frequently to access eTextbooks rather than mobile devices, tablets, or e-book readers. Among students who have used an eTextbook (n=707):

- 78% reported using a computer the most to access eTextbooks.
- 17% reported using a tablet the most to access eTextbooks.
- 2% reported using an e-book reader the most to access eTextbooks.
- 2% reported using a smartphone device the most to access eTextbooks.

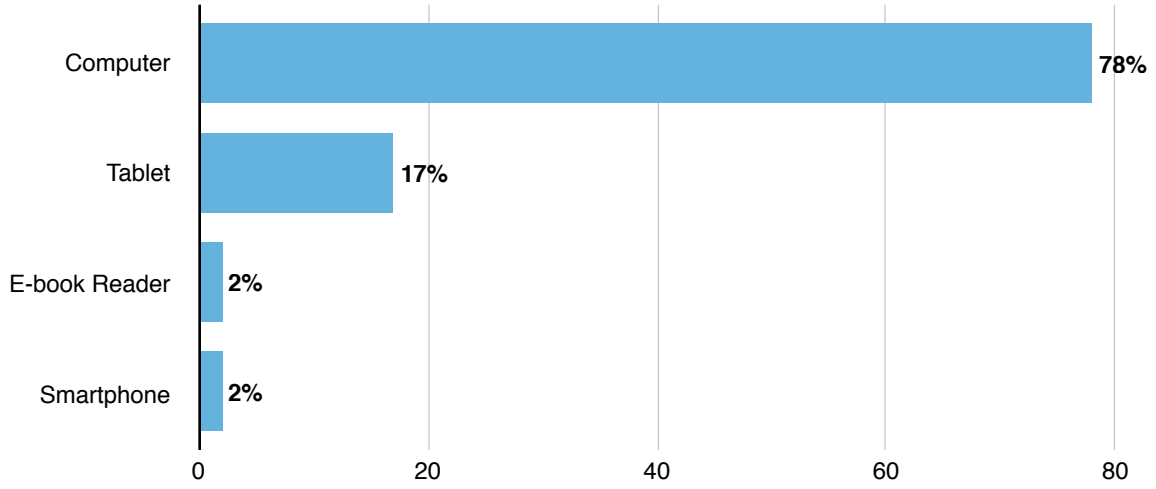


Figure 8: Devices most frequently used to access eTextbooks

Students who have used eTextbooks were not always actively using the features that facilitate reading and studying.

- Around 53% of students reported that they seldom or never actively used the features such as highlighting and making notes.

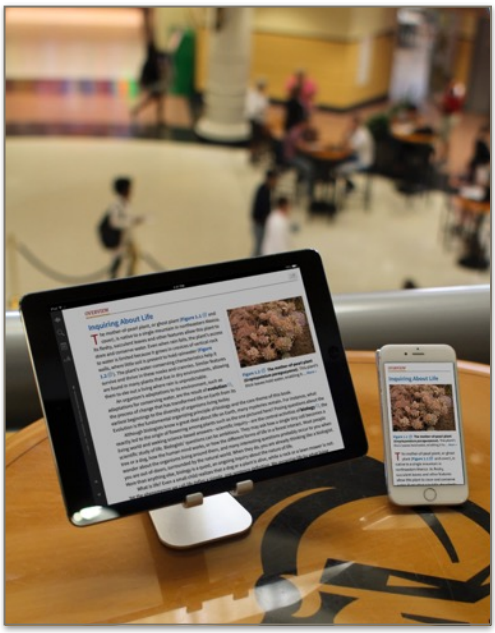
Instructor Use

Among students who have used an eTextbook (n=707):

- 33% said the electronic nature of the textbook was stated in the syllabus.
- 36% said the instructor provided instruction on how to use the eTextbook.
- 28% said the instructor modeled the use of the eTextbook in class.
- Students reported that around 77% of instructors who have used eTextbooks seldom or never actively used the features of eTextbooks.

Beliefs

40% of students who have used eTextbooks (n=279) would like their instructors to use more eTextbooks in coursework, while 34% disagree, and 26% are unsure. When asked to rate the influence of certain eTextbook features in their decision to adopt an eTextbook, reading, study, and instructor features were frequently rated as "important" or "very important." Features that were more social in nature were not deemed as important.



- 76%: Reading features such as searching for keywords, glossary, zooming text, and multimedia
- 75%: Study features such as highlighting, tagging, making notes, taking quizzes
- 67%: Instructor features such as being able to read instructor notes and highlights
- 35%: Social features such as sharing a passage on Facebook, following users on Twitter, taking a class poll, leaving notes for others to view

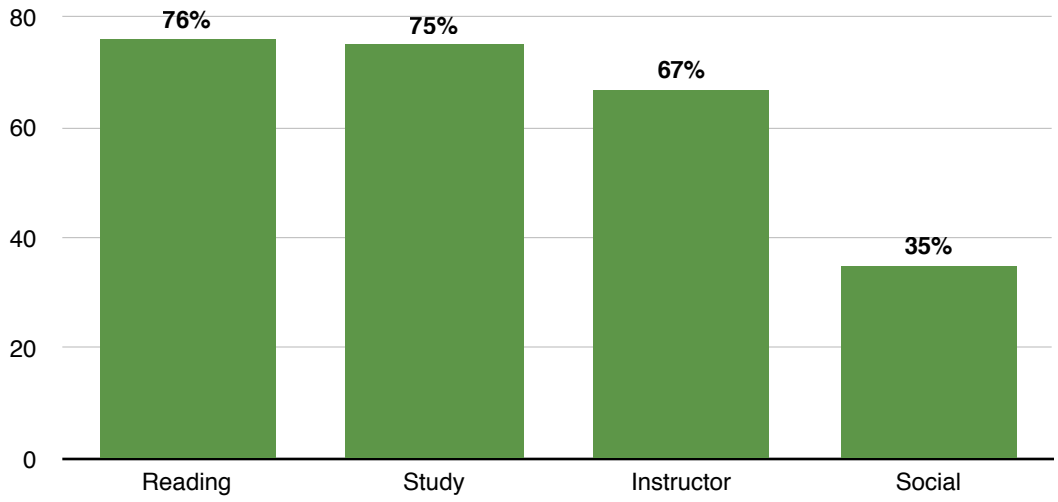


Figure 9: Most important eTextbook features perceived by students

Most students believed they have the technical and study skills to adapt to an eTextbook but were mixed about learning effectiveness, engagement, and sense of community. Among all surveyed students (N=1181):

- 75% of students believed they have the technical skills to adapt to an eTextbook.
- 56% of students believed they have the study habits to adapt to an eTextbook.
- 43% of students believed that they can learn as effectively as with a print book (27% neutral).
- 22% of students believed that they would be more engaged by using an eTextbook (32% neutral).
- 20% of students believed that eTextbooks could strengthen the sense of community in the class (42% neutral).

Recommendations

Based on the survey results, we propose the following recommendations as initial steps:

1. Provide logistical and technical support for using mobile devices/apps and eTextbooks.

Despite the increases in device ownership, there are still students who do not have access to a mobile device. Without 100% ownership, it is difficult for instructors to integrate assignments or assessments that require mobile access. This poses a special challenge for eTextbook integration because the ownership of tablets and e-book readers is still relatively limited. Instructors and students could explore alternative resources and support services on campus. At the time of this publication, the John C. Hitt Library at UCF has 95 iPads and 50 Dell Venue 11 Pro Windows tablets available for checkout. In the future, more devices are still needed to support a university of 60,000 students.

Lack of technical support emerged as the top reason that students did not want their instructors to use mobile apps/devices in coursework. It is essential to educate students on the technical use of mobile technologies.

- At this point, CDL has only provided UCFMobile-relevant information on the UCF Teaching Online (http://teach.ucf.edu) website. We plan to roll out the information to the UCF Learning Online (http://learn.ucf.edu) website so students can easily find and search for help regarding mobile technologies.
- In addition, we have reached out to instructors who are interested in integrating mobile apps in their classes. We will continue work with instructors to co-create mobile support instructions that they can insert into the syllabus.
- The mobile checklist (http://ucfmobile.ucf.edu/checklist/) is another resource created recently to assist instructors to evaluate mobile apps for learning. By reviewing the checklist items and evaluating the downloaded app, instructors will be able to make an educated decision on whether the app is appropriate for them and their students. This resource will be promoted to all instructors on campus.

2. Provide pedagogical support for using mobile devices and eTextbooks.

Although students would like to see mobile technology use increase within classroom experiences, they reported limited instructor support for using mobile and eTextbook technologies in coursework. It is recommended that instructors select mobile apps and eTextbooks for learning that are appropriate for the subject matter, support appropriate pedagogical approaches to teaching, and promote the goal of providing a high quality educational proficiency. However, the adoption of these new technologies often comes with hesitation from instructors, because they are reluctant to appear unfamiliar in a field in which they are labeled as “expert.” Providing instructors with expert testimonials, pedagogical support, and the content templates they can utilize to implement mobile learning and eTextbooks will assist with effective and successful adoption.

- The Mobile and eTextbook focus group (http://mobile.cdl.ucf.edu) that was assembled in 2012 will create brief videos highlighting successes and challenges from UCF faculty that have implemented either mobile learning or an eTextbook element to their course.
- To assist instructors in pairing mobile apps with proper learning objectives, UCF’s Mobile Online Tools & Taxonomy Resource (Mobile OTTR) (http://ottr.mobile.cdl.ucf.edu) web app will be a promoted tool. The focus group, along with Mobile OTTR users, will continue to add to this repository.
- Finally, templates for course content adoption will be created and shared in the UCF Teaching Online Pedagogical Repository (TOPR) (http://topr.online.ucf.edu). Student instructions for usage will be presented in template files such as syllabus, course expectations, and module content.

3. Provide faculty development for mobile learning and eTextbooks.

As noted in Recommendation 2, students would like to see mobile technologies integrated into learning experiences. However, there is an overlying apprehension to do so. One source of apprehension is that current support for mobile technology is limited. Therefore, additional professional development opportunities should be made available. Currently, UCF Mobile Essentials (http://mobile.cdl.ucf.edu/prodev/), which is a self-paced online course, is available to UCF instructors and was designed to support the integration of mobile technology in the classroom. Enrollment in the course has been sparse, but it is likely that many instructors simply are unaware that the course exists because little promotion has taken place.

- It is recommended that the Mobile Essentials course be further promoted so that more instructors are aware that it is available as a support mechanism.
- It is recommended that the Mobile Essentials course should be developed into a Mobile Essentials MOOC while also remaining in its current format. Creating a MOOC would provide another outlet to support instructors beyond the university in order for them to gain knowledge about integrating mobile technologies into their courses.

Currently, the integration of eTextbooks might be restricted due to a lack of professional development support and lack of promotion that also limits mobile learning integration. As a consequence, the full potential of the technology is not realized by instructors. Therefore, increased support and promotion of eTextbooks is recommended as well.

- An eTextbook Essentials (http://mobile.cdl.ucf.edu/prodev/) course that is modeled after the Mobile Essentials course is currently being developed and will be available in Spring 2015. Moreover, the development of an eTextbook Essentials MOOC is recommended to provide an additional avenue for instructor support, both within and beyond the university.

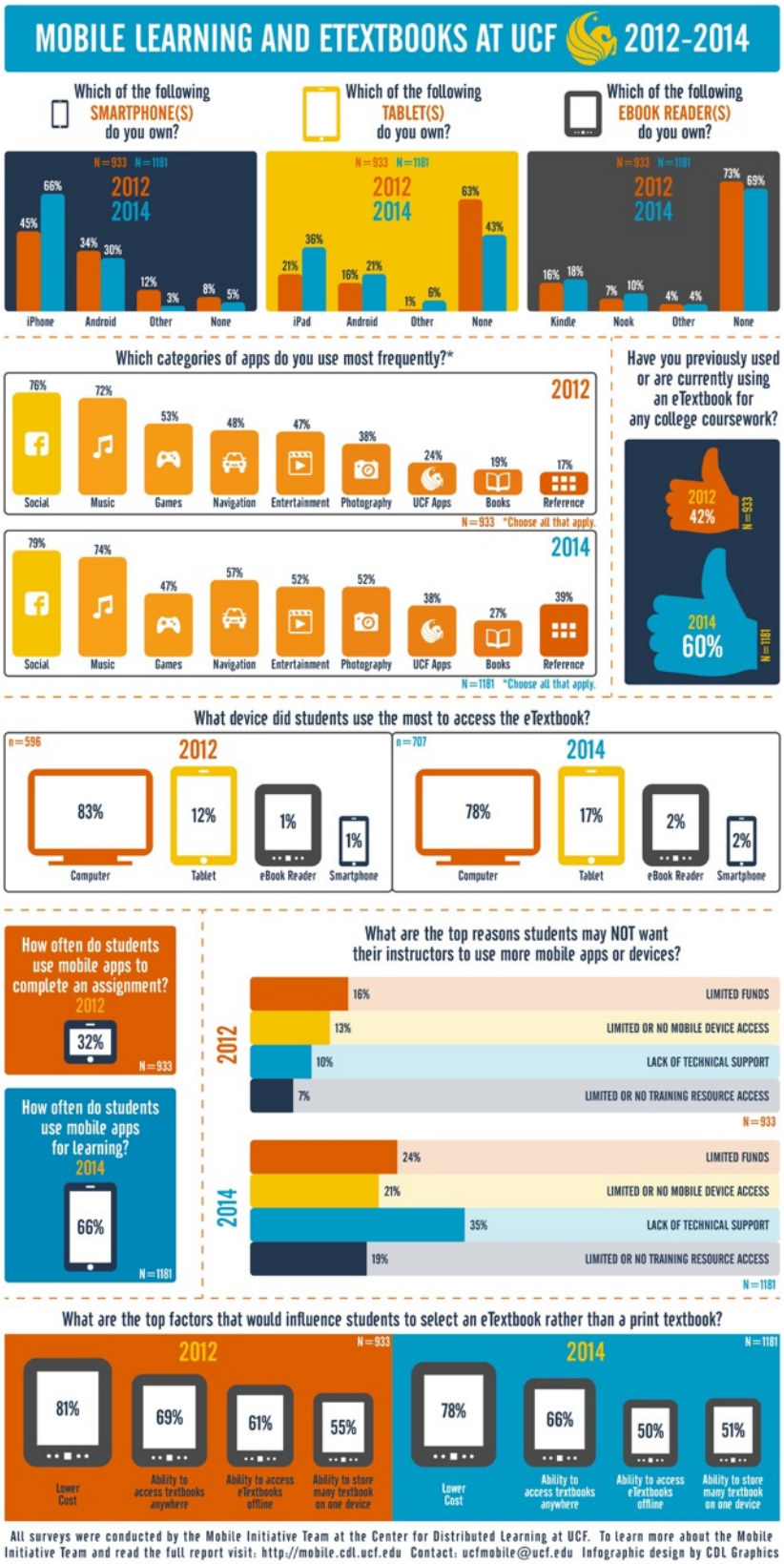
4. Work closely with publishers and providers of digital content to create customized solutions

The eTextbook market remains fragmented, as evidenced by the many different types of eTextbooks, and features offered therein, that students were using. Given the lack of standardized format adoption among publishers and providers of digital content, it is challenging to guide instructors to consistently select quality materials, as each have different features and are available on different devices. Creating a unified vision does not appear likely in the foreseeable future, but there are promising implications that will support instructors and students regarding digital materials.

- It is important to make contact with publishers and providers with respect to the specialized needs of UCF instructors and students. Dialogue with publishers and providers should call for eTextbooks that go beyond digital facsimiles of print books to include richer features such as interaction with content, multimedia and social features. Students voiced that reading, studying, and instructor features would influence them to adopt an eTextbook over a print book. These are the features that publishers and providers must focus their efforts on when supporting this university.
- More eTextbooks need to be offered in a mobile-friendly format. We found that tablet use is rising with respect to eTextbook access; one reason could be that the university bookstore's eReader application is now available on the iPad. However, the vast majority of students still use a computer the most to access their eTextbooks, which does not allow for the anytime, anywhere access that mobile devices offer. eTextbooks need to be available not just on mobile devices, but multiple devices, considering the powerful markets of Android and iOS.

- The ability of publishers and providers to bundle print books with a corresponding digital version could be a supportive “gateway” for students to start becoming familiar with the digital version while still having the familiar version in their hands. We found that 30% of students that have used eTextbooks used them in this manner. Students may find they learn differently (or sometimes better) with the digital version, given a set of specific circumstances (being on the go, studying for a test).
- One of the most promising directions for the eTextbook market is the one that points to customized solutions. For example, open eTextbooks (24%) and instructor-composed (6%) eTextbooks were not as widely adopted by instructors. It would be helpful for publishers and providers to offer solutions that involve infusing instructor-written content with publisher content, along with open online content. These services are emerging, but need to be more prominent in the textbook selection market.

2012/2014 Comparison Infographic



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Institutional Review Board

On 2/13/2014, the IRB approved the following activity as human participant research that is exempt from regulation:
Project Title: Mobile Learning and E-Textbook Survey
Primary Investigator: Baiyun Chen
IRB Number: SBE-12-08441

Contact Information

If you are interested in learning more about this survey, or are interested in participating in research opportunities related to mobility and/or eTextbooks, please contact us at the following:

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