Lessons Learned from Integrating iPads into the Business Classroom

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Introduction

In 2011, the College of Business at the University of Arkansas – Fort Smith began a small experiment with iPads in the classroom. This effort has grown over time to include most of the faculty and hundreds of students. Seemingly, we stand at a crossroads where we must decide whether to go into the future of technology and its integration into learning more deeply than before or to stay on the tried and true path of using technology as an underlying or back office function with regard to learning. Clearly, many options are available between those two extremes. This article chronicles the college’s foray into iPad integration and describes both challenges and victories along the way, as well as some potential future developments.

First the backstory and history of the iPad task force and pilot project are described, followed by brief descriptions of the courses in which the iPads subsequently have been used. Then, lessons learned from this project (which continues today) are discussed including faculty challenges, technology issues, student response, resource challenges, and goal setting. Finally, general discussion and conclusions follow.

The iPad Project

The iPad Task Force was charged by the dean in 2011 to review student and faculty technology requirements and to monitor best practices for the potential use of iPads or other tablet technology in the classroom. Initially, one faculty member from each disciplinary area was provided with an iPad by the dean. All interested faculty were invited to participate in the task force, and a few more faculty members joined who owned iPads. While other tablet devices were investigated, the iPad provided the most functionality and by far the most available apps. Eventually, each business faculty was given an iPad (with keyboard and VGA adaptor) by the dean for personal and instructional use.

Pilot Project

After much research of other universities using iPads and examination of both curricular needs and technology requirements, the committee proscribed a basic iPad setup appropriate for student use (64 GB, wifi only, iPad 2 with smart cover, power adaptor and USB cord, wireless keyboard, AppleCare

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1 The authors and the UAFS College of Business are especially appreciative for the information and assistance provided by David R. Evans, Provost, and Kayleen Grage, Academic Technology Project Coordinator, both of Buena Vista University.

2 Other universities either using iPads or investigating their use at the time this project was begun include Seaton Hall, University, Pepperdine University, Buena Vista University, and Reed College (amongst many others). At some universities, iPads projects are being (or have been) piloted in various departments or courses such as biology at Ohio State University, medicine at Dartmouth, and teacher education at the University of Oklahoma [Tisley 2103].
At the time, the cost for these items was about $1,000 per student.³ Obviously, the cost of providing these to an entire class of students was prohibitive. However, at the same time the university foundation became aware of the possible initiative and thereafter a donor, impressed by the college’s plans, made a donation which assisted the College in securing enough iPads for a pilot project.

In addition, the task force also investigated the legal issues of loaning iPads to students, and a student contract was prepared for students to sign during iPad distribution. The iPad and associated items remain the property of the university and the students are responsible for returning them unharmed at the end of the semester.⁴

Meanwhile, the task force identified a course for the iPad pilot project, accounting information systems (AIS), an upper-level accounting elective which commingles the accounting and information systems disciplines. In 2011, there was an exploding interest in tablets by the accounting profession [c.f., Drew 2011, Johnston 2011]. This factor in combination with the professor’s willingness and eagerness to experiment made AIS the logical pilot course choice for the task force.

**Accounting Information Systems**

The AIS professor chose a textbook (*Accounting Information Systems*, Romney and Steinbart) that was available as an ebook in the CourseSmart app. At the time, that saved the students about $100 and some of the competing textbooks were not yet available in any ebook format. Also other materials were required such as *iPad 2: The Missing Manual* (2nd edition). The latter book was chosen because it was available as an ebook, it was written for users who have no understanding of the iPad or smartphones (which was true of many of our students at the time), and it explained iPad operations in a simple narrative with numerous screenshots. Meanwhile the professor spent a massive amount of time and effort identifying useful apps for the course.

The pilot course was taught Spring semester 2012 and iPad use in this course continues in the present. In addition to the usual coverage of material in an AIS course, the course also included discussion of the following topics and comparison and use of related apps: Cloud computing and cloud based storage (e.g. Google cloud, DropBox, etc.), PDF files and readers, Microsoft Office apps, video calls (e.g. Facetime, Skype), note taking apps (e.g. Penultimate, Notes, etc.), and e-readers (e.g. CourseSmart, Kindle reader, iBooks, OverDrive, etc.). Numerous business apps were also discussed, and the Wall Street Journal app was used in the course.

Student response to the introduction of the iPad was very positive. All but one of the 20 students enrolled in the course used the ebook version of the textbook. Students particularly enjoyed finding useful apps available on the iPad for different business functions. The professor specifically emphasized the discussion of apps relating to security, databases, internal control, back up, disaster recovery, and

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³ Today, the lowest end iPad2 costs about $399 without the keyboard and cover. Many students have reported they do not use the keyboard at all, even though it has been provided to them. The College did not continue to provide students with the $50 iTunes gift card after the initial pilot semester.

⁴ In five semesters of use so far, only one iPad has been returned with significant damage (cracked screen) that had to be fixed. A few others have had scratches on the screens and or dings on the corners, but all still worked. The bigger issue has been keys falling off the keyboards, perhaps because they were jammed in backpacks etc. Only once have the terms of the contract been invoked with one student who was delayed in returning the iPad.
auditing (all important topics in the course). Students also investigated apps used to author/design other apps.

**Post Pilot Use of iPads**

In the following semesters, three faculty members requested the iPads for use in their courses through a request-for-proposals process. In addition, roughly twenty more iPads were acquired for potential student use. This section briefly describes the use of the iPad in those three courses.

**Intermediate Macro Economics**

The iPads were used in one section of Intermediate Macroeconomics in Summer 2012. The professor thought that just giving the new technology a try was worth the effort. In this course, the professor had the students perform a number of assignments using the iPads which generally centered around accessing and using data from apps of the Federal Reserve Bank (FRB) and some of its units (FRED from the St. Louis FRB), World Bank Finances, and Dollar Worth. Current FRB events were also followed by students. Students also accessed blogs and found the textbook author’s blog (Mankiw) the most informative.

The students mostly used the iPads for homework but also used them some in class. The professor found actually integrating the iPad into the classroom somewhat difficult. The professor wanted to avoid duplicating things that could be done just as well on a laptop or computer. Accessing the relevant blogs in class turned out to be the most productive and interesting use of the iPads in this course section, according to the professor. In this class about half the students used the e-book version of the textbook.

**Money, Banking, and Financial Markets**

The iPads were also used in one section of Money, Banking, and Financial Markets in Summer 2012. Students used the iPads to access the textbook and online homework management system, as well as to access databases on financial institutions, regulatory issues, and general economic information (FRED). The students often followed along with the professor during class in accessing pertinent financial institution and market data. Apps used included loan payment calculators, currency converters, and Bloomberg for iPad. In this class about 60% of the students relied on an e-book version of the textbook.

Given this course was taught in a short summer term, the professor bemoaned the limited preparation time available to find appropriate apps and integrate them into the classroom. This professor has since identified a list of additional apps that could be used in a future semester or course and looks forward to the next go-around with the iPads. For example, a stock market trading simulator app such as Stock Wars, Day Trader, or SIMTrader Pro could be used in an investments course.

**Cost Accounting**

Another professor proposed the use of the iPads in the cost accounting course. This proposal was unique in that the plan was to create an interactive textbook for use in iBooks (Apple provides the development software for free to use on Macs). The professor spent the summer writing the bulk of the textbook and associated materials and first used the iPads in Fall 2012. Because the course had been taught online on occasion, the professor had previously developed some of the needed materials (such as problems and demonstration videos of worked out examples). The course is now taught using iPads both fully online and in a hybrid setting, rotating the format each semester.

In this course, the students were given the iPads, and the interactive textbook was downloaded to their iPads from the professor’s computer (at no cost to the students). Students were required to download
several apps (costing less than $20 total), including Notability, iThoughtsHD, DropBox, Facebook, and BlackBoard Mobile Learn. Students learned to write on the iPad (the instructor provides styluses) in Notability and actually prepared their homework on the iPad. Students were required to export work from one app (such as a diagram drawn in iThoughtsHD or text typed in Notes) to another (integrating those elements into a document in Notability). Then, the students exported their assignments as PDFs and submitted them via Blackboard for grading.

Student response to the interactive textbook has been overwhelmingly positive with only about one student per semester (of 20-25 in a class) generally profoundly negative feedback. The students appreciate not only the free use of the iPad but also the additional interactive functionality (videos, demonstrations, in-text self-quizzes) of the iBook. Of course, they value the cost savings of not having to purchase the typical expensive cost accounting text. In addition, the students appreciate having access to most of their course materials right in their hands in the small package of the iPad.

Lessons Learned

The lessons learned from this project are numerous and varied. Professors have learned much about themselves and their students, in addition to learning about new ways to use technology in the learning process. This section addresses faculty challenges, technology issues, student response, resource challenges, and goal setting, respectively.

Faculty challenges

The faculty challenges have been interesting because they vary for different faculty. The first professor to use the iPads is unarguably the college of business technology expert. In some ways, success was just expected in that case. However, even the technology expert had to learn many new things, research even more, and deal with loads of challenges, some of which were administrative and some were technology centered.

At first, some faculty members were not interested at all in using the iPads (even personally). Some reluctance to use new technology is not a surprise, especially given the age of some of our faculty members. However, those who have used the iPads in the classroom and with their students so far, do range in ages. Although all faculty were provided with personal iPads, some have not even tried to use them in the classroom and are equally uninterested in their students using iPads in the classroom.

Another major concern, which affects at least some faculty, is the uncertainty associated with trying something new in the classroom. Trying new things is risky for faculty concerned with promotion and/or tenure (i.e. what is the effect on teaching evaluations?). Some assurance that this issue will not be a major factor in performance evaluation for a first time adopter is necessary to encourage faculty to try new technology in the classroom.

All of the faculty who have adopted iPads so far have been in one department (accounting, economics and finance) although the iPad proposals have been sought from all business faculty. This department’s faculty have likely been early adopters for three possible reasons. First, a supportive department head who is also a frequent iPad user has encouraged faculty to try new things. Second, since the first faculty member to adopt iPad integration was in this department, the enthusiasm and knowledge have likely spread most easily and most naturally to the nearest listening faculty. Third, since homework in many of
these disciplines tends to be quantitative in nature, faculty may be more likely to try everything possible to engage the students in hands on learning. The iPad does this.

Therefore, one of the best methods of overcoming faculty resistance or even faculty discomfort with adopting a new technology is for each new faculty user to pass along lessons learned (even information on cool apps or how to use apps) to other faculty. For example, one faculty member who did not actually use the iPads in the classroom is a heavy personal iPad user who helped some other faculty see how easy taking notes on an iPad can be. As another example, the pilot project professor has helped all the following professors adopting iPads in the classroom with various technology questions and issues.

A further rather obvious faculty concern is time. Learning to use technology, much less investigating various apps and so forth, takes copious amounts of time. Given our teaching loads as well as research and service obligations, time is a limiter for most faculty. Thus, there is a definite need to streamline the learning process for faculty, from iPad operation (basic functionality, apps, etc.) to how the tool might be incorporated in the classroom. One thing the dean did was to give every faculty member an iPad. Many professors would not have bought an iPad or certainly wouldn’t have been an early adopter without this opportunity. As it is, a sizeable segment of the faculty are using their iPads regularly and some, who have not been directly involved in the iPad integration project with students, use them in the classroom for presenting and leading class discussion and so forth.

Sharing of information is key. More sharing of information is needed if a wider adoption of iPad use amongst the faculty (even if only from the instructor side) is a goal. More faculty using iPads will, of course, encourage more students to use iPads since we are models for our students of many things, including use of technology. In some ways, the cart leads the horse because today, two years after the first meetings of the iPad task force, many of our students already own iPads before they appear in our classrooms and they know more about using them than we do at times.

**Technology Issues**

The technological issues encountered in iPad integration mostly revolved around two campus infrastructure issues. The first was the limitations of the campus wifi system. Two years ago the infrastructure was not capable of handling the vast number of mobile users on campus today. Upgrades have helped provide capacity, although some dead spots and slow spots still exist on campus.

A second technology issue was printing. For some courses (particularly the AIS course), students were doing work on the iPad but needed to print it for class. None of the printers on campus at the time of the first iPad integration were actually air print capable. Initially, this problem was solved by the dean and the provost who supported the purchase of an air capable printer and wireless router that was set up on a cart for the professor to bring to class so students could print without any conflict with the university’s network system.

A third technology issue unrelated to campus infrastructure concerns the interaction of the iPad with various course management systems and such things as publisher provided online homework interfaces. The iPad, for example, may work better with some publisher produced homework sites such as Connect (McGraw-Hill) than with others, such as Aplia (Cengage). In some cases these systems interface perfectly, some imperfectly, and some not at all. As a BlackBoard campus, we have learned a number of functions of Blackboard that are trickier for the students on the iPad than on a personal computer. Of course, some functions of BlackBoard are better and certainly more convenient on the iPad than the
personal computer. For the most part, this has been a problem for the professors (for example, the gradebook in Blackboard does not play well at all with the iPad) rather than the students.

A fourth issue faced was the lack of knowledge of the iPad by the campus IT staff. As the first adopter, the AIS professor and, to some extent, the whole task force, as well as the dean and provost, had to encourage the IT department to learn to deal with new technologies and support them, including upgrading and expanding the wifi network.

Student Response
The vast majority of students have responded positively. An occasional student has complained anonymously (or publicly) about the burden of learning new technology but those complaints have been limited to at most only one or two students per class generally. Amazingly, many of the students figure out new ways to do things in the class using apps or methods unknown to the professor. Often, this results in more diffusion of knowledge throughout the course and amongst the students.

Student response has also been positive to the cost savings inherent in the iPad initiative. In the cost accounting course, students saved money by not having to buy a textbook at all. In general, students using iPads, whether their own or the university’s as part of the iPad initiative, are finding significant savings on textbooks. This semester, CourseSmart (the app most textbook publishers use to distribute their e-book versions) launched a $200 digital rental bundle through which a student can rent up to six digital textbooks for 150 days. Several students have used this to save $900 on textbook costs.

The other scenario that has students rejoicing (almost literally) is the convenience factor of the iPad. It is not heavy. It can hold a variety of textbooks. It can be used for note-taking and doing homework. And, it can take the place of a backpack more than full of large heavy expensive textbooks. Some students say the reduction of stress on their backs alone is worth the cost of an iPad. Some students may also be more likely to visit the professor and ask questions when they can just bring their iPads open to the homework. This is much easier than printing the question or lugging a laptop into the professor’s office.

iPads were rather new when this initiative began. In the two years that have passed, they are becoming much more common. In the current semester, 40% of the cost accounting students already owned an iPad (thus not needing a university provided machine).

Resource challenges
A more general challenge involves resources of all kinds. The most obvious challenge is financial. Others include access to appropriate course materials.

From a macro perspective, this initiative could never have started without the initial financial resources. First, we had a dean who was interested in having faculty investigate the potential of tablet use and provided some, and then all, of the faculty with iPads. Second, our university foundation identified a donor who provided funding to purchase the first set of iPads for classroom use. While the college now has roughly 40 iPads available for student use (about two upper level courses full of students), the cost of providing iPads to more classes or to all students is prohibitive.

Fortunately, many students are now coming to our classes with their own iPads. As many as 40% of students in our upper level accounting classes, for example, own iPads this semester. Many of these students have previously taken one of the iPad integrating courses and have seen the usefulness of the
iPad and immediately bought one. If we are, as a college, to use the iPads extensively, the financial burden of iPad ownership will have to become the students' issue, which seems to be happening almost naturally now. Students are learning that a $399 or more investment in an iPad plus $200 will provide them with all their textbooks for a given semester (via CourseSmart) which, even including the cost of the iPad, is a savings of several hundred dollars in the first semester (multiplied by subsequent semesters, the savings can be huge).

While most of these institutions first identified in 2011 as using iPads provide the iPad to their students, other institutions are now beginning to require students to buy their own iPads, including Lynn University (Fall 2013) and Arkansas State University (Fall 2013). See Tisley [2013] and Anonymous [2013] for more details.

Another resource challenge for professors is identifying the best course materials that are easily available on the iPad. In the pilot course, the professor had to choose from a short list of textbooks that had an e-book option. Of course, the e-book option is almost ubiquitous in most fields now (only 18 months later), so that is less of a problem. Identifying the most useful apps, especially apps that are content specific rather than just generally useful, is not always easy. Certainly, a dearth of apps is not the problem. The number of apps available in the Appstore is approaching one million at this time. Sharing knowledge about useful apps is imperative for future faculty use; this means not just sharing amongst a college's faculty but also sharing information across disciplines and schools where possible. While identifying useful apps was not a goal of this article, a list of apps used or evaluated in class is given in the appendix.

The Importance of Goal Setting

The most important factor to consider when engaging in an iPad or similar initiative is identifying goals. This is especially true for faculty adopting the use of iPads in the classroom by a whole class of students. The fundamental questions boil down to

- How does it make my class better?
- How does it enhance student learning?

Having a plan in place in advance for how the iPad will be used by the students in the course is important to a successful integration. In some ways, many, if not all, of the iPad adopting faculty tried the iPads because it was a cool new resource and they thought they might as well try it since it is available. This is not a bad initial motivation, of course. However, all of the iPad integrating professors agree that the further identification of goals for using the iPad in a specific course is imperative for the best instructor and student experience. Each professor saw some successes and some failures in their course in how the iPad was used or introduced. While students are not too bothered by the occasional failure (of an assignment or the use of an app, for example), planning in advance will minimize negative outcomes.

Each course does not need to have the same goals for iPad use or its impact on student learning. While in most courses, the iPad will save the students money on textbooks, the other goals of the courses ranged pretty widely. Encouraging variety in how the iPads are used by the faculty in different courses will only serve to accelerate innovation.
Discussion

While our experience with iPad integration has been good overall, we have encountered some challenges as mentioned in the previous section. Most professors who have either used the iPad in class themselves for instructional purposes or who have been involved in the student iPad integration report positive overall experiences. One notable exception has been needed upgrades to campus technology infrastructure, which are on-going.

The other significant caveat is to make sure each faculty has time to explore their options and plan out what they are going to accomplish with the iPads in their course. Time is necessary not only for planning and experimentation but also for making sure the faculty member is more proficient with using the iPad, in whatever way is relevant to the course, than the students.

Continuing Motivation

One must ask why faculty continue to work on such time-consuming technology integration issues. Multiple circumstances motivate the integration of technology, including accreditation standards, professional and disciplinary norms, and personal preferences.

The most important motivation for many faculty and colleges of business may be accreditation. At least nine universities in Arkansas are AACSB accredited. Since this iPad project was begun, the AACSB has published new standards. Standard 9 [AACSB 2013a], which concerns content for all business curricula includes in the general skills areas “Information technology (able to use current technologies in business and management contexts).” Furthermore, the general business and management knowledge areas (also in standard 9) include “Information technology... impacts on business practices to include data creation, data sharing, data analytics, data mining, data reporting, and storage across organizations...” Other business accrediting organizations that are relevant to Arkansas institutions similarly mention technology in accreditation standards. The ACBSP, for example, “encourages creative approaches to teaching and the use of advanced technology” and “emphasizes innovation and integration” [ACBSP 2013 pp.7,65]. More generally, the IACBE [2012] includes a statement in its accreditation principles regarding the use of educational technology.

For those in the accounting discipline, the technology bar has been set even higher. New standard A7 [AACSB 2013b] requires that “Accounting degree programs integrate current and emerging accounting and business information technologies throughout the academic curricula.” The mention of emerging technologies may be particularly important for colleges integrating such technologies as iPads. Further, standard A7 requires that “student experiences integrate ... technology-driven changes in practices” and “graduates demonstrate the ability to effectively utilize technology; understand its capabilities, impacts, risks, and opportunities.”

Clearly, the disciplinary norms and the professional norms are changing, and not just in accounting although accounting is likely the forerunner. The integration of iPads into accounting firms, manufacturing processes, sales forces, and the like, is now becoming the norm rather than the exception (see Apple 2013 for numerous business examples). The Arkansas Society of Certified Public Accountants electronically publishes Technology and Productivity Weekly, which had been full of articles about mobile computing, cloud computing, social networking, etc. and their importance for accountants and their firms. Similar technology diffusion is spreading in all areas of business and economics.
Encouraging Innovation

Two important processes will encourage iPad and other technology innovation in the classroom. First, faculty already using the technology must share their experiences and knowledge, both at the broad level and at the micro (app) level with fellow faculty. Innovators are going to innovate. To encourage the rest of the faculty to join in, they must be made comfortable with the technology and they must see the value of delving into it.

Second, faculty must be assured that technology innovation will not have a negative impact on performance evaluations and potential for promotion and tenure. The impact of technology innovation on student evaluations is sometimes profoundly negative, especially if a class happens to include a group of students who are change or technology averse. Faculty should not be punished for such outcomes but rather should be encouraged to innovate and be assured by administrators that the innovation will positively impact performance evaluation even if students initially respond negatively.

Conclusion

Tablet and mobile devices are becoming a mainstay amongst business education stakeholders, including not only those organizations that recruit and employ graduates and interns, but also alumni, students, and faculty. Integrating such technologies into our classrooms, and more importantly, into student learning processes, will provide the synergy needed to help support sustainable future technology use by graduates as well as, perhaps, promote the lifelong learning attitude that is most desirable in our graduates.

To be sustainable, such technology integration must be tied to identifiable learning and classroom goals. Furthermore, the sustainability of technology innovation hinges not only on higher administration support of related faculty development but also on the sharing of lessons learned by early-adopting faculty.

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App Appendix

**Suggested Apps from Accounting Information Systems**

**Antivirus Spyware apps**
- Anti-Virus Detective
- Virus Barrier
- Cyber Wars Security Store
- McAfee Global Threat
- Protect Yourself
- AVG Family

**Firewall apps**
- SonicWall Mobile
- TrustR
- WatchGuard Security Portal
- K9 Web Protection Browser
- Hacking Firewalls and NetworksCrumb
- inetkeyIntelligent Mobile

**Database Apps**
- Database for iPad
- Access Mobile Database Client
- FileMaker Go
- Bento
- Oracle Mobile Database

**Internal Control Apps**
- Fraud Prevention and Internal Controls Course
- Sarbaned-Oxley Act and Corporate Governance Course
- Internal Auditor Magazine

**Disaster Recovery Apps**
- Phoenix Enterprise HD
- i22 Metal of iOS
- Phoenix Mobile HD

**Backup Apps**
- Backup Assistant
- iDrive
- DataTap database

**Audit apps**
- Audit360
- EHSQ Audit and Verification
- Audit 411
- iAuditor
- AUD Notes – Wiley CPA Exam Review Focus
- Notes On-The-Go
- Site Audit Pro
- auditweaver
- AuditForm

**Point of Sale Apps**
- Point of Sale
- webPOS
- WaiterOn for iPad
- ShopKeep POS
- Posterita

**Apps to Make Apps**
- How to make apps without programming
- Make iPhone Apps
- App Instructor
- Make Free iPhone Apps
- App Creator
- How to Make an App for iPad
- AppZ

**Marketing Apps**
- Cake Marketing
- iContact Email Marketing
- QuickTapSurvey
- Tarket Marketing for iPad

**e-Readers**
- iBooks
- Kindle for iPad
- CourseSmart
- OverDrive

**Cloud-based storage**
- Google cloud
- DropBox
- Apple iCloud

**Video Calls**
- Skype
- Facetime

**Suggested Apps from Intermediate Macroeconomics**

**FRED Economic Data**
- Full access to nearly 34,000 economic data series from 37 regional, national and international sources;
- graphs and supporting data

**The Fed**
- Official app of the U.S. Federal Reserve System; links to the Board of Governors as well as regional Reserve Banks

**World Bank Finances**
- Similar data to The Fed but international in scope

**Dollar Worth**
- Illustrates the value of a dollar in different periods

**Suggested Apps from Money, Banking, and Financial Markets**
Mortgage Calculator Plus
Used to illustrate time value of money; specifically amortization tables, relationship between PV and FV as well as interest rates and PV; difference of making an extra payment on installment loans

Bloomberg for iPad
Used in chapter on stocks, what’s in a stock price, the different stock indices. This one has general global business and news and up-to-date charts on prices of stocks and so forth.

Currency+
Used to illustrate exchange rates (Free version only allows currency conversion; can pay for charting feature to track currency appreciation/depreciation

CurrencyGo
Exchange rate conversion and FREE charting of exchange rate movements

Real-time Stock Tracker
Includes watchlist for wide variety of stock market indices as well as trend charting capabilities; links to daily financial news releases

Stock Market HD Free
Includes stock market data for Dow Jones, NASDAQ, S&P 500 (opening price, high, low, volume, etc.) as well as timely floor trading updates; trend charting capabilities

FRED Economic Data
Full access to nearly 34,000 economic data series from 37 regional, national and international sources; graphs and supporting data

The Fed
Official app of the U.S. Federal Reserve System; links to the Board of Governors as well as regional Reserve Banks

Dismal Scientist
Follows the monthly/quarterly/annual releases of more than 300 economic indicators worldwide

The Wall Street Journal
Free version allows limited access to daily business headlines

Additional apps that could be used in future finance/econ courses

You’re a Bank
Bank simulation game!! Students can accept deposits, adjust interest rates, loan money, borrow from other banks, etc. ($1.99 cost)

Stock Broker Game
Stock market simulation game – each player starts with $10K to use to purchase stocks, mutual funds, and other securities (Cost is $0.99, but also found similar free apps: Stock Wars: Virtual Investing; Day Trader Game)

iBillionaire
Track what big name investors are doing in their portfolios

Fed Trivia: Currency
Encourages players to test their knowledge of U.S. currency and coin

EconWise
Access to the economic publications of the St. Louis Fed

Suggested Apps from Cost Accounting (general use apps)

Notability and Penultimate
Both apps provide the means to write on the iPad similar to writing in paper and to import content from other apps, including photos, into documents that can be exported as PDFs (used by students to take notes and to turn in homework).

iThoughtsHD
A diagramming or mind mapping app used by students to diagram their own models of relationships between concepts being learned in the course

**BlackBoard Mobile Learn**
Provides access to BlackBoard from the iPad

**DropBox**
An easy method for students to save their work from the iPad and access it elsewhere (such as on their computer) and also a method for turning in homework via BlackBoard Mobile Learn

**iBooks**
Free app for buying books as well as an app for organizing PDF files and such. Used in this course to operated the interactive textbook developed by the professor.

**CourseSmart**
Used by many students to access textbooks in other classes (most textbook publishers sell ebooks via CourseSmart).