

2017

Four Imperatives Driving Business Schools to Adopt Mobile Content Delivery

Toni P. Mulvaney

Lamar University, Beaumont, Texas, USA

Frank J. Cavaliere

Lamar University, Beaumont, Texas, USA

Melissa M. Baldo

Lamar University, Beaumont, Texas, USA

Follow this and additional works at: <https://digitalscholarship.tsu.edu/sbaj>



Part of the [Business Law, Public Responsibility, and Ethics Commons](#)

Recommended Citation

Mulvaney, Toni P.; Cavaliere, Frank J.; and Baldo, Melissa M. (2017) "Four Imperatives Driving Business Schools to Adopt Mobile Content Delivery," *Southwestern Business Administration Journal*: Vol. 16 : Iss. 1 , Article 4.

Available at: <https://digitalscholarship.tsu.edu/sbaj/vol16/iss1/4>

This Article is brought to you for free and open access by Digital Scholarship @ Texas Southern University. It has been accepted for inclusion in Southwestern Business Administration Journal by an authorized editor of Digital Scholarship @ Texas Southern University. For more information, please contact rodriguezam@TSU.EDU.

Keywords: Millennials, Post-millennials, Generation Z, Smart phone

ABSTRACT

Look around at people on any sidewalk, school hallway, classroom, and, most disturbingly, any car around yours on the road. You know that you are likely to see a staggering percentage of those people staring into the screen of a “smart” phone. Millennials and post-millennials are constantly “connected.” The Millennials even connect during class; at best to fact-check their teachers, at worst, to check the latest updates on Facebook. It will only get worse with the soon to arrive Post-Millennials who have been termed “millennials on steroids” by Lucie Green, the worldwide director of the Innovation Group at J. Walter Thompson. Post-millennials who account for a quarter of the U.S. population have not had to adapt to these devices. They were born into them and will expect nothing less than having them as a fixture in their learning experience. Significantly, the parents of post-millennials concur with their Generation Z offspring and believe that education technology has a positive influence on their children’s learning. Universities are struggling to catch up to this trend, with mixed results. Since teaching about the importance of detecting and acting proactively on macro environmental changes is part of its curriculum, it is particularly incumbent upon the AACSB-accredited business schools to lead the way for the rest of academe. This paper will report on the four main imperatives driving universities, and business schools in particular, to adopt mobile content delivery. Specifically, those imperatives are demographics, finances, ubiquitous technology, and concerns over accreditation. The current AACSB accreditation standards are built around three themes: innovation, impact, and engagement. Adopting mobile content delivery would seem to fit ideally within this new framework. This paper will discuss some innovative methods currently being employed by schools of business to utilize mobile delivery of teaching content. Finally, it will point out the advantages and the disadvantages associated with departing from the traditional classroom content delivery model.

INTRODUCTION

It is beyond cavil that the smartphone is here to stay. They are everywhere; including the classroom. These small, portable, constantly connected devices have revolutionized the way people communicate, receive news, take pictures, and, according to some, think.¹ Regardless of our feelings about smartphones, they are a staple of life for our students. Take away their phones and there is a serious fear that they will suffer withdrawal symptoms.² Despite parental warnings and constant public service announcements they even put their lives (and the lives of others) in jeopardy by allowing themselves to be distracted by their phones while behind the wheel.³ If young people are willing to risk death for their phones and suffer physical symptoms by being separated from them, higher education should contemplate adjusting to this new reality when attempting to deliver its content, because, if we don’t, someone else will. But, getting higher education to change is a daunting task; many faculty are adamant that the traditional classroom model is by far the best possible educational delivery system. This paper will discuss four main imperatives driving universities, and business schools in particular, to adopt mobile content delivery. Those imperatives are demographics, finances, ubiquitous technology, and concerns over accreditation. Current AACSB accreditation standards are built around three themes:

innovation, impact, and engagement; adopting mobile content delivery would seem to fit ideally within this framework.

Imperative #1 – Demographics

Numerous reports and studies prove that smartphone usage has penetrated every age group, but the young most of all, so this paper will not belabor the obvious. This paper is more concerned with improving delivery of educational content to students in ways they can appreciate, meaning ways that improve their ability to learn and motivate them to learn. Higher education is slow to abandon the traditional lecture methodology. At worst, this is a type of passive learning where the professor pours information into the student vessels. Many have criticized this model and advocate a more interactive model. Socrates was such a teacher with his Socratic Method, which requires interaction in the form of answering questions posed by the teacher. If poor teaching is passive (and boring) and interactive is better, then how does the smartphone improve interactivity (and student interest)?

According to a report from Pew Research, 85% of Americans between the ages of 18 and 29 have smartphones.⁴ Famous bank robber Willie Sutton is quoted as saying the reason he robbed banks was “because that’s where the money is.”⁵ The smartphone is where the students are. If you want to compete for their time, you should consider going there.

Educators and higher education administrators are having a hard time figuring out how to deal with and motivate members of the millennial and post-millennial generations. They are being told that they are the first generations who can expect to do worse economically than the preceding generations. They are suffering under crushing student loan debt, which is almost always described as a “crisis.” They are told that they will have to repay the massive debt run up by the government to pay for government pensions and social security that they see little likelihood that they will ever benefit from. While these fears may largely be overblown, there is the problem that perception creates its own reality. Add to this the fact that university administrators, particularly those at publicly-funded institutions, are being pummeled by politicians wanting them to economize and become more efficient, a concept known as “corporatizing.”

These concerns are causing angst in the halls of academe. A 2014 study from the Wharton School of Business at the University of Pennsylvania focused on the then-hot topic of MOOCs, or Massive Open Online Courses, and the threats and opportunities of these courses. It had been hypothesized that this new technology could offer institutions of higher education a way to deliver quality content to large numbers of potential students at low cost. While the ardor for MOOCs may have cooled, the report offered significant insights into the millennial mindset, and how that mindset puts them at odds with traditional higher education orthodoxy. After listing the largest (and including the most prestigious) MBA programs, the report articulates a less-than surprising common understanding, but one that is extremely significant when considering the millennial mindset:

Much of the value of the degrees delivered by these large programs derives from their exclusivity. A self-reinforcing cycle of low admission rates, highly qualified

students, high starting salaries, and high numbers of applicants preserve the perceived value of the schools' degrees.⁶

The Wharton Report echoed an earlier Department of Education report dealing with the future of higher education: "To meet the challenges of the 21st century, higher education must change from a system primarily based on reputation to one based on performance."⁷

While the bulk of the Wharton report dealt with MOOC delivery methodology, the authors had this to say about the need to seek the perspective of the upcoming generation of students:

we believe that the dominant pedagogical approach will probably be driven by average student preferences, and those preferences appear to be for video. The apparent preference of current students for video coincides with the popularity of YouTube, TED Talks, Lynda.com, and the Khan Academy, among other media distribution channels.⁸

Millennials are being mocked in certain segments of the media as being sheltered, afraid of controversy, and in need of safe places when confronted with views that offend their way of thinking. They are maligned as "snowflakes" by some, especially in conservative media.⁹ Another view is expressed in a recent opinion piece to the New York Times by a millennial recent graduate of Brown University:

Requests for safe spaces or trigger warnings are not about hiding from ideas but about finding ways to engage without disturbing the people most directly affected. Students are not avoiding or silencing difficult conversations, they're learning to face them in ways that are both academically rigorous as well as sensitive to the needs of everyone in the room. Through these discussions, they are becoming a generation of leaders ready to create a more inclusive and just world.¹⁰

Similar references to the inclusive nature of millennials abound. Higher education thrives on the notion of exclusivity; the idea that attending one institution is different than attending another. It is, in a word, elitist. We know that getting into a top school is not all about merit; connections help. In the world of social media, elitism does not sell. The concept of "White Privilege" is predicated on the unfairness of elitism, connections, and exclusivity. To reach the millennial and post-millennials in any great numbers will require a new mindset from educators.

The smartphone is not only a marvelous device; it is also egalitarian. They are cheap and plentiful. It is easy to use, especially by the young and very young. It is, in a word, inclusive. To the extent that higher education can successfully and cheaply deliver content over the smartphone, it too will be inclusive, student-friendly, and in the most populated and accessible space on earth.

Imperative #2 – Finances

For close to a decade the American Association of University Professors (AAUP) has decried the trend toward “corporatization” of higher education. In 2008, Professor James G. Edwards wrote a seminal article in the AAUP’s journal *Academe*, titled “How We Can Resist Corporatization” in which he described the goals of the corporatists: “Corporate models for operating colleges and universities value short-term profits over long-term investment in education, and they regard students not only as products but also as customers. Professors are commodities to be exploited and traded, and academic administrators are managers whose decisions make shared governance and due process inefficient and unnecessary.”¹¹ A recent article in the AAUP’s journal *Academe* described the effects of corporate-style cost-cutting in Wisconsin higher education and similar problems currently affecting other states: “Politicians and the public want universities to deliver education at a faster, cheaper rate, the ultimate ends being good jobs for their children and a stronger economy. Universities want freedom and money.”¹² They point out that Wisconsin is not alone: “North Carolina, Louisiana, and Texas are just a few of the other states in which higher education leaders are facing challenging political realities related to state funding, the future of tenure, and other key policy issues.”¹³

In Texas the push to corporatize higher education has been led by the non-profit Texas Public Policy Foundation (the TPPF). The Chair of the Board of Directors for TPPF is Wendy Lee Gramm, previously head of the Commodity Futures Trading Commission from 1988 to 1993, board member of Enron, and wife of former conservative U.S. Senator from Texas Phil Gramm. The TPPF has been a vocal critic of tenure, political correctness on campus, over-paid and under-worked faculty, poor student performance, high tuition, and the resultant out of control student loan debt crisis.¹⁴ According to that organization’s Web page dealing with higher education issues:

Blaming rising tuition fees on stagnant appropriations is simply disguising the real problem: hugely rising university costs, manifested in burgeoning armies of highly paid university administrators, luxurious facilities that are costly to maintain, and low teaching loads for faculty. If quality of instruction were improving dramatically, fee increases might be justified. But the evidence does not support that conclusion. When we look at all the facts, we find that Texas students are paying too much and learning too little. This is the real crisis facing higher education.¹⁵

In 2007 the Department of Education issued an important report on the future of higher education, commonly referred to as the Spellings Report after the Secretary of Education, Margaret Spellings. While lauding the historical successes of higher education, the report took that institution to task for numerous perceived failings. It called for more inclusiveness and greater flexibility:

In this consumer-driven environment, students increasingly care little about the

distinctions that sometimes preoccupy the academic establishment, from whether a college has for-profit or nonprofit status to whether its classes are offered online or in brick-and-mortar buildings. Instead, they care—as we do—about results.¹⁶

It held up pilot courses at a number of institutions that adopted more open participatory, and technologically advanced approaches to teaching:

The participating institutions, which included Carnegie Mellon University, Northern Arizona University, and Tallahassee Community College, redesigned instructional approaches to improve some of their large, introductory courses. Instead of offering traditional lecture formats, instructors used active learning strategies to engage students in course material. These redesigned courses provided online access to Web-based tutorials, on-demand feedback, and support from student peer mentors. The use of technology reduced course preparation time for instructors and lowered instructional costs per student. The results speak for themselves: more learning at a lower cost to the university. Institutions reported an average of 37 percent reduced cost and an increase in student engagement and learning.¹⁷

Many of these innovations are ideally suited for the smartphone. Like it or not, the corporatizing of higher education is a looming reality; embraced even by the Obama Administration. Utilizing low-cost, ubiquitous technology, such as smartphones is a step toward adopting an efficient corporate communications model. The cost of a smartphone can be surprisingly low. They can be obtained at a low cost (sometimes free if reconditioned) even without a contract from pay-as-you-go services such as Tracfone (at www.tracfone.com). Low income students can probably receive free Internet access under the Lifeline Program, part of President Obama's "Bridging the Digital Divide Initiative." According to one activist quoted in a recent New York Times story:

Inexpensive options for access have dwindled, not grown," said Hannah Sassaman, a director at Media Mobilizing Project. "A broadband subsidy for Lifeline will transform access to this basic human right in American cities, where such access is necessary to apply for even the lowest-wage jobs.

Imperative #3 – Ubiquitous Technology

Smartphone technology is everywhere. While it is true that younger members of society are more likely to use smartphones than seniors, even the older generations have adopted this technology. Go to a doctor's office and watch the patients, both young and older, amuse themselves on their phones. Educational technology is another story, however. According to an article in the *Southwestern Business Administration Journal*, students are likely to be "digital natives," but older teachers are much less likely to be considered "tech savvy."¹⁸ To the extent that smartphones can be used to deliver educational content, it will most likely be a modern communication method with which they are already familiar and comfortable.

How does a smartphone work and how is it different from a notebook computer? According to the experts at the knowledgeable PC World Web site, smartphones inherently have better connectivity with the Internet than most computers, including laptops and tablets:

While some tablets, and even a few laptops come equipped with the technology to connect with cellular networks, it is a certainty with smartphones. As ubiquitous as Wi-Fi networks seem to be these days, there are still vast expanses where there is no wireless network -- but your smartphone can still get a 3G (or maybe even 4G) signal.¹⁹

Beyond superior connectivity, PC World cites four additional advantages of smartphones: they are easier to keep handy, they are much easier to use for phone calls, it offers superior text messaging features, and with built-in cameras, GPS and many other features they are extremely versatile (they go so far as to liken them to the Swiss Army Knife).

That the smartphone is a tectonic shift can be demonstrated by all the studies that have been done on how they are used. One of the most interesting studies about how people use smartphones is the discovery from a European telephone company that making telephone calls comes in fifth in importance (based on time spent on a daily basis) behind, in ascending order: listening to music, playing games, checking social networks, and, number one, browsing the internet.²⁰ According to that study, users spend approximately 3.5 more time on the Internet, browsing and using social media, than they spend making calls. That story suggests taking the word “phone” out of the name “smartphone.” Another story on that study points out that “64 percent have used their smartphones to replace their alarm clock, and 39 percent use smartphones as a diary.”²¹

Many schools are experimenting with educational delivery via smart phones. Schools such as Harvard, University of Phoenix, Ohio State, and Florida State University have mobile apps for student use.²² Here is a description of what the University of Phoenix mobile app provides:

- Communicate and participate in class discussions right from their phones.
- Keep track of grades.
- Receive real-time notifications and alerts when instructors post grades.
- Access drafts and discussions even when offline.
- View course syllabus and class materials.²³

Is that an optimal use of a mobile app and the smartphone? Certainly, participating in class discussions is beneficial. An article on the National Education Association (NEA) Web site, titled “Using Smartphones in the Classroom”²⁴ discusses Ken Halla, a veteran 9th grade teacher who has incorporated the latest technology into his World History and AP Government classes.²⁵ It addresses some ways smartphones could be put to good use to enhance the public

school teaching experience. The article touts the abundance of education-friendly apps,²⁶ including one that allows the class to interact with the teacher via a poll-taking application.²⁷ That article also cites a list of educational apps created by Mr. Halla that includes Educreations Interactive Whiteboards, which “Allows your iPad to become a recordable whiteboard. The User can create video tutorials by writing or drawing (with your finger or a stylus) information, recording your voice, and adding images from a personal image library or the web. Recordings can be shared via email or via a generated hyperlink.”²⁸ Mr. Halla has offered some interesting ideas that go far beyond allowing students to access syllabi or call into class. Another innovative use of the cellphone in the classroom is Top Hat. Top Hat is a mobile application that creates an interactive lecture experience that actively drives student outcomes through real-time feedback. For instance, a section of reading can be assigned to be completed before class so that a discussion topic can be posed over the material during class. Students will participate in the discussion in Twitter-type fashion on their mobile device creating a lively debate du jour. To sweeten the pot students can “like” their favorite response creating a competition for the best response. Top Hat also automatically registers attendance and grades any quizzes given during class. A definite boon for professors. Quizzes are saved on the students’ mobile device to be used as a study guide. No doubt it’s a win-win situation.

These ideas go hand-in-hand with one of the latest pedagogical models being touted in recent years; flipping the classroom. In other words, the lecture and homework are done before class so that class time can be spent on engaging exercises, projects or discussions. According to a recent study, fifty-five (55) percent of faculty are flipping their courses or plan to do so in the near future.²⁹ In terms of Bloom’s revised taxonomy (2001), flipping the classroom means that students are doing the lower levels of cognitive work (gaining knowledge and comprehension) outside of class, and focusing on the higher forms of cognitive work (application, analysis, synthesis and/or evaluation) in class where they have the support of their peers and instructor.³⁰

Experts in pedagogy stress the importance of keeping students engaged in the classroom. Dr. John Medina, a developmental molecular biologist and research consultant has conducted extensive research of the brain. In his book entitled “Brain Rules: 12 Principles for Surviving and Thriving at Work, Home and School” he emphasizes that after ten (10) minutes audience attention to a speaker steadily drops making it necessary to change gears every 10 minutes. As stated by Dr. Medina, “if keeping someone’s attention in a lecture was a business it would have an eighty-percent (80%) failure rate.” Tie this with another interesting fact; during oral presentations people remember ten percent (10%) of what they heard seventy-two (72) hours after exposure but if you add a picture that figure goes up to sixty-five percent (65%).³¹ A single picture and you’ve increased student retention by fifty-five percent (55%). These statistics make Storify another good teaching choice for professors. Rather than the stale approach of PowerPoint slides, Storify is a social media platform that can be used to build a lecture that brings together Twitter, YouTube Videos, pictures and text. This creates a social media montage that will capture and hold the attention of post-millennials. It has been widely reported that attention spans are shrinking³² and the new generation likes videos that capture their attention.³³ All of this data makes clear the course that business schools must chart. We must accept that technology is the curriculum of the future and embrace and create a multifaceted

interactive educational experience for our post-millennial students. If not, it is quite possible that we will be rendered obsolete.³⁴

Imperative #4 – AACSB Accreditation Concerns

The Association to Advance Collegiate Schools of Business (AACSB) advances quality management education worldwide through accreditation, thought leadership, and value-added services. Through its accreditation standards and processes, AACSB recognizes institutions that uphold its mission and core values. In this context, AACSB focuses on continuous quality improvement in management education through engagement, innovation, and impact.³⁵ According to the AACSB, “accreditation should encourage an appropriate balance and integration of academic and professional engagement consistent with quality in the context of the school’s mission.”³⁶

Focusing on the “three pillars” of engagement, innovation, and impact, the AACSB acknowledges the profound changes in today’s business environment—spurred by demographic shifts and emerging technologies. Accordingly, accreditation standards require innovation and investment in intellectual capital. In addition, with declining public support for higher education, business schools are under additional economic pressure to shift the mix of teaching and learning models they employ. Business schools are called to foster quality and consistency in their programs, but not at the expense of the creativity and experimentation necessary for innovation.

In 2013, new and revised standards were published. Some of these standards correlate directly with the teaching innovations discussed in this paper. One of the brand new standards deals with Teaching Effectiveness (Standard 12).³⁷ It requires accredited business schools to have policies and processes to “enhance the teaching across the range of its educational programs and delivery modes”. Business schools are now required to provide evidence of the effectiveness of faculty’s *delivery* and preparation for their classes.³⁸ With continuous improvement as the goal, Standard 12 seeks evidence that demonstrates development activities focused on teaching enhancement and student learning. In addition, the standard calls for documentation of innovative and effective teaching practices that have significant and positive impact on student learning. The methods described in the previous section of this paper are excellent innovations that can help a school meet the requirements of this standard.

Student-faculty interactions is another area for examination under the AACSB standards. In Standard 10, the AACSB evaluates whether the business curricula facilitate “student-faculty and student-student interactions appropriate to the program type and achievement of learning goals.”³⁹ Here AACSB looks for opportunities students have to work together on learning tasks and learn from each other.⁴⁰

Another concern of AACSB’s continuous improvement review is found in Standard 11. Under this standard, the teaching/learning models are examined to insure achievement of high quality learning outcomes. Teaching/learning models include face-to-face classroom models, distance (online) models, blended models that employ both components, and “other forms of technologically enhanced instruction”. Reviewers are looking for, among other things, innovative delivery modes and the kinds and extent of student effort involved in achieving engagement.⁴¹

Student academic and professional engagement is the focus of Standard 13. According to the standard, engagement occurs when students are actively involved in their educational experiences, in both academic and professional settings, and when they are able to connect these experiences in meaningful ways. Curricula is judged by whether students are given the

opportunity to actively engage in learning. Documentation of significant active student engagement in learning is required.

In summary, the innovations described above will help an accredited school of business maintain their accreditation by providing evidence of student-faculty engagement, innovative use of technology in the curriculum, and more effective teaching.

REFERENCES

¹ There have been many articles expressing concerns that the excessive use of smartphones, especially among young people, are having a deleterious effect on the human brain. A typical article is found in the Times of India ("Your smartphone is destroying your memory," by Reema Gehi, Dec 3, 2013), which includes the following quote from a distinguished neurologist: "Our minds are getting lazy because gadgets ensure we don't use them enough." Available online at <http://timesofindia.indiatimes.com/life-style/health-fitness/health-news/Your-smartphone-is-destroying-your-memory/articleshow/19412724.cms>.

² See, Dale Archer M.D., "Smartphone Addiction," available online at the Psychology Today Web site at <http://timesofindia.indiatimes.com/life-style/health-fitness/health-news/Your-smartphone-is-destroying-your-memory/articleshow/19412724.cms>. Dr. Archer even has a name for this syndrome, "Nomophobia-fear of being without your smartphone," which he claims affects 40% of the population.

³ See, "Thousands have Died in Crashes Involving Cell Phone Use," from the National Safety Council at <http://www.nsc.org/learn/NSC-Initiatives/Pages/distracted-driving.aspx>.

⁴ See, <http://www.pewresearch.org/fact-tank/2015/04/01/6-facts-about-americans-and-their-smartphones>.

⁵ The FBI Cases and Criminal Gallery at <https://www.fbi.gov/history/famous-cases/willie-sutton>.

⁶ Terwiesch, Christian and Ulrich, Karl T., "Will Video Kill the Classroom Star?," July 16, 2014, The Wharton School, page 4, available online at https://mackinstitute.wharton.upenn.edu/wp-content/uploads/2014/07/Terwiesch_Ulrich_Threat-and-Opportunity-of-MOOCs-for-MBA-Programs.pdf.

⁷ U.S. Department of Education, "A Test of Leadership: charting the future of U.S. Higher education," [The Spellings Report], (Sept. 2006) available online at <http://www2.ed.gov/about/bdscomm/list/hiedfuture/reports/final-report.pdf>, at p. 21.

⁸ Id. At 12-13.

⁹ Lewis, Patrice, "The snowflake generation strikes again," World Net Daily, 7/1/16, available online at <http://www.wnd.com/2016/07/the-snowflake-generation-strikes-again/>: "The question on everyone's mind is, what happens to these snowflakes when they hit the brutal world of employment? What happens when safe spaces aren't available and micro (and macro) aggression is everywhere?"

Read more at <http://www.wnd.com/2016/07/the-snowflake-generation-strikes-again/#HpRETxgPe6DIpka3.99>

¹⁰ Byron, Katie, "Millennials Are Creating a More Inclusive and Just World," December 21, 2015, available online at <http://www.nytimes.com/roomfordebate/2015/11/02/when-a-generation-becomes-less-tolerant-of-free-speech/millennials-are-creating-a-more-inclusive-and-just-world>.

¹¹ Andrews, James G., "How We Can Resist Corporatization," Academe, May-June 2006, available online at <http://firgoa.usc.es/drupal/node/30147>.

¹² Weerts, David J., "Covenant, Contract, and the Politics of the Wisconsin Idea," 102 Academe, Sept.-Oct. 2016, available online at https://www.aaup.org/article/covenant-contract-and-politics-wisconsin-idea#.V-6x_yTe80A.

¹³ Id.

¹⁴ See the TPPF Web site at <http://www.texaspolicy.com/>.

¹⁵ Available online at http://www.texaspolicy.com/press_release/detail/texas-college-tuition-is-unjustifiably-high.

¹⁶ The Spellings Report, *supra* at xi.

¹⁷ Id. At 21.

¹⁸ Smith, Amanda and Wright, Carol, "An Evaluation of Technology for Student Engagement," 15 SBAJ 17, 19 (Fall 2015).

¹⁹ Bradley, Tony, "5 Ways Smartphones Are Better than Laptops or Tablets," Jan. 6, 2012, PC World Web Site at http://www.pcworld.com/article/247388/5_ways_smartphones_are_better_than_laptops_or_tablets.html.

²⁰ Garber, Megan, "Maybe We Should Stop Calling Smartphones 'Phones,'" July 2, 2012, The Atlantic, available online at <http://www.theatlantic.com/technology/archive/2012/07/maybe-we-should-stop-calling-smartphones-phones/259290/>.

²¹ Gilbert, Jason, "Smartphone Usage Stats Suggest You Aren't Calling Your Mother (Or Anyone) Enough," July 12, 2012, available online at http://www.huffingtonpost.com/2012/07/02/smartphone-usage-stats_n_1643761.html.

²² Harvard Mobile App at <http://www.harvard.edu/about-harvard/harvard-mobile-apps>; University of Phoenix Mobile App at <http://www.phoenix.edu/students/how-it-works/online-resources/university-of-phoenix-mobile-app.html>, Ohio State University at <https://www.osu.edu/downloads/apps/>, University of Florida at <https://info.apps.ufl.edu/>.

- ²³University of Phoenix Mobile App at <http://www.phoenix.edu/students/how-it-works/online-resources/university-of-phoenix-mobile-app.html>,
- ²⁴Graham, Edward, "Using Smartphones in the Classroom," available online at <http://www.nea.org/tools/56274.htm>.
- ²⁵See, Suggested Mobile Apps for the Secondary Classroom at https://docs.google.com/document/d/18QQejCZYJb3Hj3eV4Vm87k740CQPqiXuzy1wM_Qf8As/edit?pli=1#.
- ²⁶Examples mentioned include: "World Wiki, an app that provides demographic information for almost 250 countries around the world; iAmerica, an app with information about each U.S. President and the history of the White House; U.S. Constitution, so students can have easy access to one of the most important American documents; and many others that are designed to provide students with further classroom support."
- ²⁷Polleverywhere at <https://www.polleverywhere.com/>.
- ²⁸See Educreations Web site at <https://www.educreations.com/>.
- ²⁹Schaffhauser, Dian and Kelly, Rhea, "55 Percent of Faculty Are Flipping the Classroom, Campus Technology, October 12, 2016
- ³⁰Brame, Cynthia J., "Flipping the Classroom," Vanderbilt University, 2013, available online at <http://cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom>
- ³¹Medina, Dr. John, 2014. *Brain Rules(Updated and Expanded): 12 Principles for Surviving and Thriving at Work, Home and School*. 2nd ed. Washington: Pear Press.
- ³²Anand, Timothy, "Preparing Your Online Learning Strategy For The Millennials." eLearning Industry, May 5 2016, available online at <https://elearningindustry.com/preparing-online-learning-strategy-millennials>
- ³³Jenkins, Ryan "Train Millennials Using Microlearning to Score Their Attention and Retention," November 25, 2015, available online at <http://www.ryan-jenkins.com/2015/12/03/train-millennials-using-microlearning-to-score-their-attention-and-retention/>
- ³⁴Newton, Paula. "Business Schools And The Digital Education Revolution," March 28, 2015, available online at <http://www.intelligenhq.com/business-education-2/business-schools-and-the-digital-education-revolution>
- ³⁵Eligibility Procedures and Accreditation Standards for Business Accreditation, www.aacsb.edu (April 8, 2013). AACSB is a non-profit corporation of business schools, accounting programs, corporations, and other organization devoted to the promotion and improvement of higher education in business administration and accounting. Founded in 1916, AACSB established its first standards for degree programs in 1919. The association regularly reviews its accreditation standards and processes for opportunities to improve relevance, maintain currency, and increase value.
- ³⁶Eligibility Procedures and Accreditation Standards for Business Accreditation, www.aacsb.edu (April 8, 2013).
- ³⁷Eligibility Procedures and Accreditation Standards for Business Accreditation, www.aacsb.edu (April 8, 2013).
- ³⁸See id. At Standard 12, Guidance for Judgement, p. 34.
- ³⁹See id. At Standard 10, p. 32.
- ⁴⁰Id.
- ⁴¹See id. At Standard 11, pp. 33-34.