

The Mobile Classroom at Cross Purposes with Higher Education: Pros and Cons; Do's and Don'ts

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Abstract

Students face a heavier burden than ever in their quest to obtain higher education. A popular and economical solution to ease the burden for students is the online (mobile) classroom. Faculty must adjust to this demand if their institution is to remain competitive in student enrollment. The mobile classroom is at cross purposes with both faculty and students. Pedagogical issues are a legitimate concern for both faculty and students in the mobile classroom. The delivery of quality mobile content is an obstacle facing many institutions and faculty. Most faculty are content experts not technology experts. Most students only use technology in a superficial way. Recommendations for further study are also included.

This study addressed the following questions that are at cross purposes with the mobile classroom:

How will the mobile classroom affect pedagogy?

What technologies are available for faculty to use to deliver quality content on the mobile platform?

How much time and money will the mobile classroom cost the student?

How much time and money will the mobile classroom cost the faculty?

Love it or hate it, the mobile classroom is here to stay. According to a recent report, “Online enrollments have continued to grow at fast rates far in excess of the total higher education student population, albeit at slower rates than for previous years” (Allen & Seaman, 2007, p. 1). These rates are broken down in the following manner,

Almost 3.5 million students were taking at least one online course during the fall 2006 term; a nearly 10 percent increase over the number reported the previous year. The 9.7 percent growth rate for online enrollments far exceeds the 1.5 percent growth of the overall higher education student population. Nearly twenty percent of all U.S. higher education students were taking at least one online course in the fall of 2006. (Allen & Seaman, p. 1)

These facts cannot be ignored. As the need becomes more pressing, faculty and students will embrace mobile content delivery. The need for faculty is to ensure students are learning and to maintain enrollments. The need for the student is to get an affordable bona fide education and to maintain their lifestyle while staying engaged with the content. Simmons, Jones, and Silver (2004, p. 50) aptly describe it as, “The Transition from Face-To-Face to Cyberspace.” The change is actively underway. Mobile learning must be carefully considered if Colleges and Universities are to stay competitive with student enrollment. Another important consideration is the accessibility of mobile devices. For example, minority populations are less likely to own a desktop computer or laptop. According to Smith (2010, p.3), “African-Americans and English-speaking Latinos continue to be among the most active users of the mobile web.”

The result is that the mobile classroom is at cross purposes with higher education. Some of the pros of the mobile classroom are:

1. Greater student flexibility in an asynchronous learning environment.
2. Commuter students/faculty will save travel time.
3. Commuter students/faculty will save fuel costs.
4. A student will gain more ownership of their learning experience.
5. Higher education institutions may use money saved from faculty travel to extension sites for more focused spending on educational resources.

Some of the cons of the mobile classroom are:

1. Lack of faculty/student interaction in an asynchronous learning environment.
2. Time saved commuting will need to be spent developing an engaging mobile classroom for faculty.
3. Students often find online classes are more work.
4. Faculty and students will need to be current on the latest computer hardware and software.
5. Copyright issues related to the use of material (i.e.; media, proprietary educational material, etc.) need to be addressed.

Purpose of the Study

The purpose of this study was to examine the pros and cons and do's and don'ts of teaching on the mobile platform. An examination of the ways in which the mobile learning platform may be leveraged to develop and deliver educational content on mobile devices was conducted. Technologies that are available for faculty to use to deliver quality content on mobile platform were also investigated.

The Mobile Classroom at Cross Purposes with Pedagogy

In assessing student learning related to the mobile classroom, one must begin with the following assumption, "Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom" (AAHE Assessment Forum, 1993). The mobile classroom just like the traditional classroom has many challenges to the learning process. Traditional classroom disruptions by students are lessened in the mobile classroom, because the mobile classroom instructor has greater control of the learning environment depending on the type of mobile learning software being used. Elluminate's Class Live Pro for example, provides the tools for the instructor to monitor student participation or lack thereof. A student is given access to speak to the rest of the class in a mobile web conference format when the instructor opens the microphone. A student may click an icon to alert the instructor he/she has a comment or question. The instructor is able to acknowledge the student and has the option of completing their thought or allowing the student to speak. Similar to the traditional classroom, disruption is a concern in the mobile classroom but monitoring student work and participation take different forms supported by mobile tools (Li & Akins, 2005). For example, a student may be inclined to use instant messenger or internet chat sessions at the same time they are in the mobile classroom. It must be pointed out that this situation is not unique to the mobile classroom. Students in the traditional classroom frequently send and receive text messages during class. For this reason Finkelstein (2006) recommends,

Live online experiences must start with an implicit or even explicit compact or agreement between an instructor or facilitator and participating learners. In this ‘synchronous compact’ learners agree to minimize the distractions they have around them and to make every effort to contribute meaningfully to the experience. (p. 5)

A unique set of teaching skills is required for the mobile classroom. Savery (2005) proposes the VOCAL approach:

- V – Visible
- O – Organized
- C – Compassionate
- A – Analytical
- L – Lead by example

These are some of the key characteristics the master instructor uses in the mobile classroom. The mobile learning instructor must not be hidden from their students. They should remain visible by communicating frequently with students. The mobile learning instructor must be organized in the mobile classroom environment. If not, students will quickly realize that they are wasting their time and focus their attention elsewhere. A mobile learning instructor must also have compassion for their students. They need to understand that technology may become unstable and a student might need extra time or help navigating to appropriate learning sites. There are a myriad of other areas where compassion is needed in the mobile classroom. The mobile learning instructor needs to remain analytical in their assessment of student learning outcomes. A variety of teaching methods should be attempted in the mobile classroom to include students with differing learning styles. Finally, the mobile learning instructor must lead by example. An instructor must be engaged in the mobile classroom and provide prompt constructive feedback to their students in both the synchronous and asynchronous learning environment. Chikering and Gamson’s (1987) “Seven Principles for Good Practice in Undergraduate Education” are applicable to the mobile classroom. These seven principles incorporate the pedagogical and instructional outcomes necessary for accomplishing good mobile learning\ teaching. The seven principles:

1. Encourage contact between students and faculty.
2. Develop reciprocity and cooperation among students.
3. Encourages active learning.
4. Give prompt feedback.
5. Emphasize time on task.
6. Communicate high expectations.
7. Respect diverse talents and ways of learning. (p. 76)

The design of the mobile classroom needs to consider the pedagogical goals of the educational process. Switzer (2002) distilled many of these based on the work of many experts in the field. Switzer recommends that instructors require new learners to take a pre-course student tutorial to familiarize them with hardware and software requirements. Another recommendation by Switzer is that course elements, objects and controls, like those that aid learners’ navigation

should be visible, obvious and ideally intuitive. He also suggests that instructors should include interactivity between learners, learners and the instructor, learners and the course tools and content, and learners and outside-the-course web sites. Another recommendation of Switzer is that instructors provide feedback on assignments and assessments that are accessible through email or office-hour chat room or discussion sites.

The next section of this article discusses many of the most popular delivery systems that are available for use in the mobile classroom. Both proprietary and free to the user technologies are discussed.

The Mobile Classroom at Cross Purposes with Content Delivery

The rapidly changing nature of technology presents a problem unique to the mobile environment. Unlike the traditional environment, some sort of electronic information exchange system is required in the mobile classroom that must be minimally understood by all participants. Chickering and Ehrman (1997) emphasized that new learning technologies have become major resources for teaching and learning in higher education. New learning technologies have increased dramatically over the past eleven years. On ground content can be easily transferred to the mobile environment providing significant benefit for simple content distribution. Using existing Internet tools to re-purpose content allows students to work interactively but has a much higher learning curve. Beyond this capability, Internet based learning offers a collaborative potential that cannot be realized in the classroom. The Internet as a medium is largely misunderstood by content developers. Content authors tend to have little knowledge of the standards and technical conventions that comprise the Internet. To the greatest extreme, content is being developed by those who have limited understanding of how the Internet works. Consequently, content authors make poor use of the available resources. Understanding the underlying infrastructure provides the foundational knowledge to fully implement Internet based content both as an author and a user. The necessity for a deep and full understanding of the mobile learning infrastructure cannot be understated. To not understand a powerful technology is to ultimately be at its mercy or, worse still, be subject to the whims of capricious activities without a notion that they have had any effect.

A major concern among educators in the mobile classroom is creating a learning environment that motivates, educates and entertains while at the same level is challenging. Keller's (1983) motivational design model maintained that motivation influences students to choose learning goals and to work toward these goals. Technologies and interactive media in particular support student control of learning. This control of learning is typically supported by several technologies and by interactive multimedia in particular.

The emergence of multimedia and mobile technologies has caused educators to examine the processes of learning more closely. The relevance of the techniques of learning and instructional design is being recognized as pedagogies that enhance more independent, self-paced and self-motivated learning.

Current research addresses the transfer of traditional content to the mobile environment, but research is sparse when trying to understand the implementation of current dynamic media abundantly available from Internet based sources. This work is intended to raise questions regarding those resources and the infrastructure required to implement them.

Comprehensive course management systems are available. For the purpose of this study two examples will be discussed. These examples are Blackboard and eCollege. Both systems offer authoring environments, management, and reporting tools that electronically emulate a traditional classroom. eCollege bundles Elluminate to provide collaboration services. Elluminate enables instructors and students to interact and collaborate in real time in a synchronous mode.

Whereas Blackboard and eCollege are proprietary, fee-based services, commercial organizations like Google offer a suite of services at no cost to consumers and schools. With some adaptation, users can use no cost resources replacing the most used features of proprietary systems. A no-cost course management system exists similar in concept to commercial alternatives called Moodle. Moodle is a free Open Source software course management system designed using sound pedagogical principles, to help educators create effective online learning communities (Moodle, 2008). Ultimately, no-cost services eliminate license fees and reduce support costs. Google services are freely available and can be shared with the community at no charge because they are not proprietary. To provide meeting and mobile conferencing services, Open Source systems like Google+ Hangouts fill the need. Google+ Hangouts support up to 10 users at a time. Excellent resources continually become available and existing resources are enhanced. The dynamics of content development demand almost constant attention.

To receive mobile content the student and instructor should possess well equipped devices with relevant applications for mobile learning. A foundational knowledge of technology is a requirement for users to be successful in the mobile classroom.

The delivery of content in the mobile classroom is at cross purposes with higher education. The new media by which content is delivered from teacher to student is not without challenges. This issue has been experienced in the traditional classroom too, i.e.; power outages, film projectors breaking down, overhead projectors bulb burn out, video/DVD players malfunctioning, etc. "Societies have always been shaped more by the nature of the media by which men communicate than by the content of the communication" (McLuhan & Fiore, 1967, p. 8). The reality with which content developers are struggling with is how content is to be developed. The medium through which content is delivered is significant. The traditional classroom is conceived to have blackboards, desks, and some multimedia devices. This classroom is teacher-centric in its delivery. The mobile classroom is anytime, anywhere, student-centric. Taken to its potential Internet ends the mobile classroom is totally media driven from all directions. Developing content for the traditional classroom is well defined and structured. Developing content that takes advantage of the potential of the exploding Internet medium is only in its infancy. Delivery systems like Blackboard and eCollege provide functionality, but are only electronic emulations of the on-ground classroom. They tend to fall short of their on ground counterpart environments, causing more anxiety in the educational process than the learning value they produce. McLuhan & Fiore (1967, p. 9) describe this situation as "trying to do today's job with yesterday's tools-with yesterday's concepts" and the playing field is always changing.

A lesson delivered in a traditional classroom can be effectively implemented by using the most fundamentals tool. The mobile classroom, however, was spawned in the mainstream of Smartphone activity. The current medium for teaching thrives insatiably on content but the tools to develop sufficient content greatly lag behind the need. For educational content to even be relevant it must approach or exceed the quality of the movie trailers one can find easily at locations like Quicktime. Few businesses and educational institutions have the wherewithal to

support high quality multimedia content development and must resort to alternative means. The content is available, but finding it is the challenge. Once found, insuring appropriate use is essential and copyrights must be respected.

Many businesses have “give back” efforts to inject content into the public venue and some higher education institutions have developed very high quality programs for the public domain under grant programs. Apple Computer’s iTunes U provides a high quality resource for educational institutions to publish audio and video podcast content at no cost. Basic video content for not-for-profit organizations is available at no cost from Wingclips. Learner.org is another site for teacher resources and teacher professional development programming across the curriculum.

Mobile learning environments can be places for users to explore, manipulate, and communicate, rather than simply a place where they are “taught.” Educators must understand the learning process from the users’ perspective rather than from that of the content alone. Development should encompass a pedagogical approach. Development and use of Mobile apps for education provide a viable solution to the mobile classroom at cross purposes with content delivery.

Methods of education and training have changed little over time. Almost every other aspect of modern life has been impacted significantly by rapid developments in technology. Most every industry and service has been revolutionized in the past 50 years by the impact of technology. The education and training industry is only now beginning to feel this impact and to realize that it might seriously affect the way it does business. There is still a long way to go before there is a common understanding of what will probably be a new paradigm for education and training. Therefore, there is a great deal of confusion about the processes, results, and interpretation of the first small steps in this new direction.

In the next section of the article questions of how the mobile classroom is at cross purposes with higher education students and faculty are addressed.

The Mobile Classroom at Cross Purposes with Higher Education Students and Faculty

One of the biggest attractions of the mobile classroom is the flexibility it provides to students. Battalio cites the studies of Arbaugh (2001) and Johnson (1999) in his article *Interaction Online: A Reevaluation*. The authors state that, “Students of online courses consistently say that they have chosen this mode of instruction because they believe it will save them time and will be more convenient” (p. 345). Battalio (2007) conducted his own study where he found,

Many students opting for online courses are nontraditional students who must manage full- or part-time jobs and families. Consequently, attending traditional courses at specific times and places, especially those in which the formation of collaborative online communities is a priority, is problematic for them. (p. 345)

The result is that demand for the mobile classroom has gone up. This also explains the reason why “Online enrollments have continued to grow at fast rates far in excess of the total

higher education student population, albeit at slower rates than for previous years” (Allen & Seaman, 2008, p. 1). The changing demographic from the traditional, living on campus young adult student to the non-traditional, adult commuter student insists that class schedules be adjusted to meet their needs. According to Kanuka, “Many adult learners view themselves as customers, rather than students, and demand readily accessible learning services that are tailored to their needs” (2001, 51). For this reason faculty must be willing to adjust to meet this demand and engage students where they are if the institution is to remain competitive.

Although the mobile classroom provides flexibility and readily accessible learning services students often find themselves at cross purposes. Most students quickly realize that a class taken online requires more effort. Students can not be passive in this environment. They must be active to be successful. Li and Akins state, “Online course work generally takes more time and students have to work harder” (2005, p. 54). The instructor also discovers online classes to be more time consuming albeit more flexible. Instructors do not have to travel to campus for class. They may have more flexibility in their travel schedule for conferences where there is an internet hook up so they do not have to cancel class or be able to offer a course during a summer session.

Learning on a mobile device require the student to practice self-discipline and to wisely budget their time to complete course work successfully (Iverson, Colky, & Cyboran, 2005). This is true for the instructor as well. The mobile classroom demands the instructor to be disciplined in time management for getting lectures prepared/posted, feedback to students through email and grading, and so forth. The Internet represents access to significant content, but without the knowledge resulting from a depth of understanding, it is essentially a wasted medium devoted to personal entertainment or other superficial pursuits.

The fonts of knowledge are everywhere, but the rising generation is camped in the desert, passing stories, pictures, tunes, and text back and forth, living off the thrill of peer attention. Meanwhile, their intellects refuse the cultural and civic inheritance that has made us what we are up to now. (Bauerlein, 2008, p.10)

The synchronous mobile classroom provides a distinct laboratory where a legitimate assessment of skills or training can take place in an efficient and bona fide environment. Finkelstein (2006) suggest several skills and situations where many synchronous environments seem tailor-made. The following list are some these skills that can be developed and assessed according to Finkelstein:

- Public speaking or presentation skills
- Real-time problem solving and analytical thinking
- Listening and reading comprehension in native and second languages
- Composure in reflecting and responding under pressure
- Well-reasoned conversations on discipline-specific topics; offering cogent responses in a timely manner
- Persuasive, well-articulated, and well-spoken oral arguments; practicing the art of oral rhetoric
- Storytelling skills
- Debate

Proficiency in software skills or other real-time applications or processes
Demonstrated leadership skills in developing, fluid situations. (pp. 12-13)

The mobile classroom provides enormous potential for good, quality instruction and learning for both students and faculty. A careful consideration of the learning outcomes along with a realistic view of the capabilities and limitations of the technologies puts the mobile classroom at cross purposes with students and faculty. A mobile learning study conducted by Franklin & Peng (2008, p. 79) on the subject of math conducted at a public school in Southeastern Appalachian Ohio found, "The math educators, the students, school administrator, and university faculty were impressed by the ability of students to present difficult concepts in a visual format and then discuss them with friends." If current trends remain the same the students and faculty will be making use of the mobile classroom. An understanding of the mobile classroom at cross purposes with higher education should be pursued when preparing to launch a mobile learning initiative.

Conclusion and Recommendations

This study has discussed the pros and cons and do's and don'ts of teaching on the mobile platform. Pedagogical issues are a legitimate concern for both faculty and students on the mobile platform. The delivery of quality mobile learning content is an obstacle facing many institutions and faculty.

This study has provided answers to the question of how the mobile classroom is at cross purposes with pedagogy. Several recommendations were offered to assist the mobile learning instructor by helping them become more effective and able to reach their pedagogical goals.

Many of the most popular delivery systems available for use in the mobile classroom, both proprietary and free to the user technologies were discussed. Mobile learning instructors need to carefully consider the options to ensure that content is delivered to meet the standard demanded of higher education.

Students and faculty are at cross purposes with the mobile classroom. Many students face a heavier burden than ever in their quest to obtain higher education. The mobile classroom is a popular and economical solution to ease the burden for students. This study has addressed the issue that most students only use technology in a superficial way. Today's technology use is more and more recreational. Users have access to the world's most powerful information and access technologies without the knowledge to fully engage the tools they possess. The mobile learning instructor must rise to the challenge by modeling for their students in the mobile classroom the best practices of using mobile technology as was discussed in this article.

Most faculty are content experts not technology experts. Therefore, instructors should seek out use friendly, well-supported software technologies for mobile classroom delivery. Many of these technologies were considered in this study. Further study is recommended to determine the minimum technological requirements for instructors of the mobile classroom. Further study should be conducted on the mobile classroom at cross purposes with the administration of institutions of higher education. The effects of the growing trend toward the mobile classroom on the traditional classroom and the online classroom should also be studied. Another area that should be studied is the effect the mobile classroom has on the building and

expansion of the traditional institution of higher education. One final recommendation for further study is the legitimacy of a pre-course student tutorial to familiarize the student with the hardware and software requirements of the mobile classroom.

The focus of this article was limited in scope to faculty and students. The challenge is for faculty and students in the mobile classroom to embrace these available technologies to ensure the best mobile learning experience possible.

The potential gain of using mobile applications to deliver educational content is a compelling alternative to the traditional brick and mortar classroom. The mobile student population continues to grow driven largely by market demand and the ubiquitous possession of Smartphones by today's students. Mobile education has also improved with new technologies and upgrades arriving almost daily. Companies like Adobe, Apple and Google have made a contribution by developing many good, quality applications. Love it or hate it, the mobile classroom is here to stay.

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