iPad and Web 2.0 Pedagogic Innovations In Marketing: Utilization of Entrepreneurial Skills

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This paper describes the implementation of iPad technology in an undergraduate marketing course. The impact upon entrepreneurial skill development, student effective use of the course's textbook, and improved course performance support the use of this technological innovation. This pedagogical approach requires students to implement entrepreneurial skills as they experience marketing projects. The university, which houses this endeavor, includes entrepreneurial skills as a component of their liberal arts core education, and has been recognized three times by Entrepreneur magazine as one of the nation's Top 100 Entrepreneurial Universities. Challenges exist including realization that this technology and research are in preliminary stages.

INTRODUCTION

The iPad's Impact on Marketing Curriculum

Preferring an interactive approach to teaching in which all students are actively involved (Ueltschy 2001), there was a concern that students were not fully engaged in the undergraduate Marketing Management course's text book. (1) Specifically, the question was, "Are students reading the text so as to synthesize that material with the additional content presented in class lecture and discussion?" Did students apply the text material in an active way for their learning or were they simply passively reading the material to re-state it in a case study or another assignment? (2) Furthermore, certain course objectives were targeted for more successful attainment.

It appears that the iPad technology facilitated resolution of the pedagogical concerns noted above. The targeted learning outcomes of the course were more successfully fulfilled. Students were very engaged with their textbooks in and out of the classroom. The textbook became a real-time resource that linked to other relevant marketing statistics and research findings. Benefits included students being able to acquire and interact with content in a technology-rich learning environment, and greater student control leading to improved meta-cognitive skills (Hunt, Eagle, Kitchen 2004). The entrepreneurial skill of "learning as a life-long professional" was enhanced. Marketing students, using entrepreneurial skills, became more competent, thereby "giving them a framework that they can use to assess current and future technologies in terms of their potential impact on marketing practice…and appeal to consumer or business customers (Neilson, 2009, p. 43).

As part of the technology initiative at the university in which this course is taught, an assessment group on the Griffin Technology Advantage program (referred to as the GTA in this paper) was instituted. The results of those research efforts indicate the effectiveness of the iPad as a learning tool that facilitates successful attainment of course objectives (Gawelek, Spataro, Komarny, 2011). Students did attest to the

ability to transfer knowledge into behavior. In an entrepreneurial manner, they maximized the resources provided to them in the classroom. "Students are engaged," Spataro says, "and faculty are getting really creative... 66% of our faculty have reported using mobile technology at least once a week, if not once a day, in the classroom. The walls are coming down. The role of the academy, and the way in which we prepare students, is changing" (Spataro, M., cited in Discover, Create, Communicate: Learning Transformed).

MARKETING TEACHING INNOVATION

Tools and Resources

Part1: Beginning in the Fall of 2010, Seton Hill University (SHU), as part of a new program called the Griffin Technology Advantage, started a major technology initiative involving the iPad; "the very notion of education, knowledge and research is being redefined" (Havas 2009, p. 428). The university "seized the opportunity to experiment and ….[to] improve the learning experience" (Gawelek, Spataro, Komarny 2011, p. 30). All full-time students, full-time faculty, and other university members received an iPad. This university was the first to move to such an iPad commitment in the United States. When faculty and students arrived on campus, the IT staff provided an organized pickup system for the reception of the iPads. The distribution of the iPads was completed for the majority of faculty and staff within the first week of the new semester. Additionally, every recipient received at least one hour of training on the iPad. The university upgraded its computer support infrastructure to support the heavy utilization of the university's resources. The IT staff was responsive to new demands. For example, the capacity in the classroom that is the focus of this manuscript was enhanced to adapt to many students "pulling" on the wireless system at one time. "Since its 2010 release, Apple's iPad has been making inroads in education….so students can work with the latest technology" (Woyke, 2011, para. 1). Information technology resources were structured to handle the technological challenge (iPads Move onto Campuses; Uses to Follow).

This paper will discuss the use of the iPad in the entry-level marketing course and how it resolved many of the professor's concerns regarding student engagement in the course content. Additionally, students' use of Entrepreneurial Skills will be noted. The innovation occurred in two main ways: (1) use of the iPads in class as a learning tool, and (2) use of an iPad-based marketing textbook. This work corresponds with the rapid increased use of technology by employees and consumers (Vaughan-Nichols, 2011).

Marketing students engaged in experiential learning are increasingly called upon to integrate cutting-edge technology (Granitz, Koernig, 2011). Marketing students are called upon to gain technological competences relevant to business as marketers use more information technology (Neilson, 2009; Bell, et.al., 1997), just as marketing educators are called upon to integrate innovative tools into the curriculum (Kaplan, Piskin, Bol, 2010). From the first day of class, students were encouraged to share their reactions and impressions of the new technology as a pedagogical tool. Faculty and staff were invited to periodic professional development meetings in which the use of the iPad as a teaching tool was discussed and informally evaluated.

The marketing syllabus encouraged students to use the Wall Street Journal application ("app") for the iPad in order "to bridge the gap between knowledge acquisition, skill development, and real world application" (Fitzgerald 1995, cited in Ueltschy 2001, p. 63). In class, students referenced website links on the course's electronic website and correlated the researched information to class discussion and text book materials. Students became more accountable for their individualized learning. Students were required to use their iPads for presentations and in-class exercises by first researching relevant statistics and corporate best practices, and then projecting some of their findings from the iPad to their classmates. As the use of the technology evolved, students researched available resources and used the iPad technology for small-group research and activities during their presentations. Additionally, the syllabus added negative evaluation for misuse of the iPad in the classroom.

Responseware (clicker) for the iPad was required. The software allows the instructor to immediately display the class' results of real-time surveys. This afforded students the opportunity to individualize their reactions to information they were learning. The professor also attempted to use this tool for short quizzes, but the software did not make this the optimal tool for that approach.

This pedagogical approach calls on the students to implement entrepreneurial skills as they experience business (Marketing) projects. Stevenson and Grousbeck, 1989 defined entrepreneurship as the "'process of creating value by bringing together a package of resources to exploit an opportunity'" (cited in Morris and Hills, 1992, p. 1). The university where this process occurred houses a national entrepreneurial center and includes entrepreneurial skills as one of the components of all students for their liberal arts core education. The culture encourages the Business students while working on corporate-related projects to institute "opportunity recognition, agility, and constant response to the market, quality products, and innovative practices" (Cone, 2007, p.86). Additionally, the university has been recognized three times by *Entrepreneur* magazine as one of the nation's Top 100 Entrepreneurial Universities. Therefore, this setting was an environment where these entrepreneurial skills were understood and could be implemented. Furthermore, this is relevant, because entrepreneurship in marketing is "an exploration of the ways in which entrepreneurial attitudes and behaviors can be applied to the development of marketing programs" (Warren, 1992, p. 22).

Part 2: In August, 2010, the university Provost approached some faculty and asked if they would be part of a small, national Beta test for a new iPad-based text book developed by the Inkling company. The professor used the textbook originally intended for the marketing course but on the Inkling platform (Young, 2011). Features of this type of eBook includes that there is interaction in real-time to students' text-related questions through a memo option. Unlike other iPad texts (Wieder, 2011), students can "follow" the notes, comments, and supplementary material that the professor adds to the actual text. The professor typed notes and Socratic questions for the entire class that appeared throughout the chapters on all students' text books. The information literally overlays onto the text content. The professor used the textbook interactively with other technology on the podium: shifting to PowerPoints, Internet, etc. She connected the marketing plan and simulation projects with text content on the Inkling pages. Students were assigned to synthesize course material with Wall Street Journal examples and to post their results through the memo option of the text. She assessed the students' marginalia (Kaya, 2010) to determine comprehension and analysis. Their individual results were displayed on the professor's text and periodically projected during lecture as reinforcement and recognition of student product. Additionally, the quizzes in the text are programmed instruction giving students the why's/rationale/knowledge for answers. As the semester progressed, the professor refined the use of the Inkling book for more formative assessment.

Student Information and Engagement

The students were introduced to the iPad as part of the university's Griffin Technology Advantage Program. On the first day of class, the professor was very transparent with the class about the use of the iPad and the Inkling text book as a pilot program in interactive learning. The successful integration of the iPad into Marketing education requires (1) institutional academic and technological support, (2) faculty receptivity to learning a new technology and integrating the tool into the marketing curriculum, and (3) students' openness to accepting the change and potentially un-foreseen challenges of adapting to a new learning tool and the subsequent learning environment. The students' openness to opportunities in a new venture built their entrepreneurial skill of "adapting to change/flexibility".

DATA ANALYSIS

"The effectiveness of integrating technology into the curriculum can be assessed by gathering quantitative and qualitative data from students and faculty" (Benbunan-Fich, et al., 2001, p. 12). As part of the university's early evaluation of the concept of intense integration of the iPad into the classroom, the author conducted research of iPad Inkling users. In the author's preliminary research, of 87 student

respondents, their use of iPads in courses to support instruction included the following: (a) Internet: 87%; (b) Applications: 59%; (c) E-mail: 57%; (d) E-texts: 22%. Correspondingly, the following indicates the items that the faculty required as students' use of the iPad in their courses: (a) Internet: 78%; (b) Applications: 46%; (c) E-Mail: 43%; (d) E-texts:18%.

Students also ranked factors that were perceived as beneficial outcomes of the use of iPads. The students thought the capability to complete assignment-related research in real-time, to access to an eBook, to plan team meetings, and to access the Internet for learning were the most beneficial aspects of the iPad technology as a pedagogical tool. The table below shows the statistical outcomes of this aspect of the survey results.

TABLE 1

HIGHEST RANKED BENEFITS OF iPAD AS LEARNING TOOL

Benefit	M	SD
Access to the Internet for learning	3.33*	2.46
Access to eBook	3.5 *	2.39
Assignment-related research	3.86	2.17
Planning team meetings (for courses)	3.5	2.06

Significance: *p≤0.05

Variance was statistically significant (to the 0.05 level) for the highest ranked benefit responses. In analyzing the question asking which benefits were gained by using the iPad, the mean and the median of "access to the Internet for learning" and "access to eBook" responses were very significant. Therefore, the learners believed those benefits made a notable difference and impact on their learning. This result demonstrates that the respondents seriously considered the value of the iPad as a learning tool when completing the survey. The iPad provided access to the Inkling textbook. The mode response for the factor "Access to Inking Book" received an average score of 2 (on a scale of 1 to 5, with 1 being the highest advantage), thereby demonstrating the students' perception of the usefulness of that textbook platform.

In addition to the aforementioned research, the students involved in the latest offering of the marketing course completed a reflection paper regarding the use of technology in the classroom. Of 39 student reflection papers, 38 were positive-to-very positive about the use of technology in the course. Comments included that "times are changing"; the technology we used made class a lot more interesting as well as enjoyable…we could implement what we learned. Understanding the competitive nature of the workplace, students also remarked about the transferability of the experience to the workplace. For example, one student stated that the use of a high-level of technology gave a feel for modern business and provided better in-depth knowledge [of marketing]. Furthermore, a respondent remarked that the use of technology provided an idea of how technology is becoming an integral part of every business. Using an

interactive technology, the students were engaged. A student recognized the necessity of this innovation, stating that the use of an online simulation would not be possible without classroom technology. Benefiting from the hands-on learning, one student recommended requiring the use of technology in all assignments. Students appreciated the real-time accessibility to the Internet and article sources. Furthermore, access through the iPads, and to a lesser degree laptops, afforded students the capability for immediate analysis of online analytics related to a marketing simulation. The students recognized the advantage of conducting research meetings in real-time. As one student noted, the iPad allowed him to outline and find information for assignments easier and quicker. It was beneficial that the textbook, lecture notes, course site and simulation are "all in one place". A respondent stated that they could use the lessons they learned in class and grow.

Most faculty who conducted the Beta test on this campus reported that a benefit of the iPad was the access to the Internet for learning. Another survey of a small group of Business Program faculty found that 75% of the respondents stated that students demonstrated that the iPad enhances their learning through more academic research being completed in the classroom.

DISCUSSION

As noted above, the university's Liberal Arts Core Curriculum includes an element for Entrepreneurial Skills. These are subdivided into Goal-setting, Risk-taking, Adapting to Change/Flexibility, Team work, Transferring knowledge into behavior, Learning how to learn as a life-long professional, and Sound decision-making informed by values. These elements build the entrepreneurial paradigm and "process of exploration, innovation, experimentation, and resource mobilization. [This is crucial to the success of the business projects and exercises] because finding what works depends on having the right knowledge, being able to envision new combinations, and having the freedom to test ideas through action" (Dees, 2007, p. 26). The following delineates how each of the university's entrepreneurial skill set was enhanced through the exposure to new technology.

Goal-setting. The students implement this element early in the semester by determining how to establish goals for the attainment of the Inkling textbook and achieving a comfort zone utilizing the "memo" feature.

Risk-taking. This skill was realized when students accepted the challenge of using a textbook in a piloted format. Realizing that grading would be associated with the memo and imbedded-video features of the textbook, the students had to further call upon their implementation of a risk-taking culture in the classroom.

Adapting to Change/Flexibility. This type of iPad-based learning was a new endeavor for all of the students. Therefore, as learners they move from a status quo state to a transforming stage before the ultimate norming state is attained. These future business managers realized that one has to become accustomed to change.

Team work. The app-based projects discussed in this paper were sometimes team projects. Students acted very collaboratively by sharing ways to troubleshoot issues with the textbook and other iPad apps. This collegiality developed into a positively intertwined classroom of engaged learners. Additionally, in the year-end teacher evaluation, the students rated the question "formed teams or discussion groups to facilitate learning" a 4.5 average (out of a possible 5). The interactive, engaging nature of the iPad facilitated the accomplishment of this outcome.

Transferring knowledge into behavior. This entire experience required each student to demonstrate their marketing knowledge through the completion of various assignments using the iPad. This involves displaying professional behavior as well. Furthermore, in the year-end teacher evaluations, the students rated the question "the teacher involved students in hands-on projects such as research, case studies, or real-life activities" as a 4.5 (out of a possible 5).

Learning how to learn as a life-long professional. As the students progress through this experience, they realize that each exercise is the first of many similar experiences they will have throughout their business careers. Students saw this learning experience as a competitive advantage.

Sound decision-making informed by values. Small and large decisions were made by students. This required a professional, respectful, accurate process that led to credible assignments.

Student refined researching skills, developed hands-on appreciation for the interface of business marketing concepts, and a new confidence that the required business competencies can be extrapolated in the future work setting. Students in the marketing course realized that creativity was feasible even though a pre-established teaching approach was the guide. This necessitated a flexibility to change within time constraints and time parameters. The in-class student surveys provided additional data about their perception of the value of the technology innovations.

The Inkling project made the marketing learning more interactive. With Wi-Fi connectivity, students could watch a case study video from each chapter directly on their iPad. This multi-media interactivity appeared to increase students' engagement in the text material and the development of their cognitive and reasoning skills. They were able to implement the entrepreneurial skills of "transferring knowledge into behavior" by demonstrating their knowledge and analysis of marketing concepts by submitting assignments through the Inkling iPad and by sharing their enhanced research skills in successful marketing plans. This latter adaptation developed the entrepreneurial skill of "learning how to learn as a life-long professional". Visual and auditory reinforcement was offered. As the professor desired, this format made learning very accessible and involved the students more actively in the textbook content.

The iPad facilitated a marketing simulation coming into the classroom walls during the next marketing course offering. The students could access and discuss decisions at any location.

Some adaptations and revisions occurred in the spring of 2011 in other upper-level business courses. The Dropbox cloud technology, including the Dropbox iPad app, was used for project draft organization. Groups were formed through the electronic file site. Through the direct access of Dropbox, students collaborated on reports and analyzed their simulation and/or project results. Students' feedback indicated that this tool improved their time management skills and their organization abilities, and enhanced positive, interactive team work. Student accountability for results is much more visible and the students stated that it led to more equal workload distribution. "Learners are able to learn anytime, anywhere, and in a collaborative learning environment" (Wee Keng, Chen Swee, 2001, para. 1). The Dropbox cloud technology facilitated development of the Entrepreneurial Skills of goal-setting, teamwork, and transferring knowledge into behavior.

CONCLUSIONS

The research conducted on this innovation is in a very preliminary stage. Moving forward, more collection of data for analyzing student learning outcomes needs to be gathered. Although this paper demonstrates several measurable outcomes of iPads as pedagogical tools, there is a need for more performance metrics. Ways to evaluate and track the intangible skill development of students need to be formalized.

Data from the aforementioned Teaching and Learning Forum for faculty and staff (Gawelek, et.al., 2011) was coded by the author of this paper. The major concern of faculty surrounded the distractions that are easier due to the iPads' presence. The author of this paper found one way to counteract that concern is through frequent movement throughout the classroom and the use of a remote pointer and clicker (that advances slides). Through effective use of the iPad, despite social media temptations, students demonstrated the effective implementation of the entrepreneurial skills of "goal-setting" and "sound decision making informed by values".

Future Adaptations and Conclusion

This innovation is applicable in other marketing education and entrepreneurial skills settings. Other professors can select learning gaps in the classroom and use the iPad's benefits to help resolve the issues. "Once the educator chooses an area, the activity can be adapted for a learning outcome" (Granitz, Koernig, 2011 p. 60). The evolutionary nature of this technology offers increased opportunities for effective marketing education.

Given the preliminary results in the marketing course, the iPad innovation will continue. In the future, based upon student feedback, Google docs will be encouraged for student pre-planning, real-time drafting, and chats before homework is submitted through Dropbox. The possible applications of these iPad-based innovations can enhance marketing education's effectiveness while students implement entrepreneurial skills.

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