

**DESIRED MOBILE APPLICATION FEATURES OF AGRICULTURAL
COMMUNICATIONS AND JOURNALISM STUDENTS AT TEXAS A&M
UNIVERSITY**

An Undergraduate Research Scholars Thesis

by

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Submitted to Honors and Undergraduate Research
Texas A&M University
in partial fulfillment of the requirements for the designation as

UNDERGRADUATE RESEARCH SCHOLAR

Approved by
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May 2013

Major: Agricultural Communications and Journalism

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ABSTRACT

Desired Mobile Application Features In Agricultural Communications And Journalism Students

At Texas A&M University. (March 2013)

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As an institution charged with the responsibility of educating those whom attend, the Department of Agriculture at Texas A&M University examines the desire of students to incorporate technology alongside traditional classroom instruction. The study sought to see what students find useful or difficult to utilize in current popular mobile applications on smart devices, such as Apple, and Android devices. The study was conducted through a mixed methods approach consisting of a small focus group of Agricultural Communications and Journalism students at Texas A&M University to collect qualitative data and preferences. The focus group was later followed up by an extensive online questionnaire distributed to all Agricultural Communications and Journalism majors and minors at Texas A&M University in order to collect quantitative data concerning smart device ownership percentages, usage ratios, and personal preferences and expectations. Students had an overwhelmingly positive desire for a mobile application to be used alongside courses. Students expressed a desire for the app to mimic Twitter's newsfeed design, while also having convenient access to course materials, announcements from course instructors, and interactive messaging with other classmates hosted through the app.

CHAPTER I

INTRODUCTION

In the early 2000s, the mobile phone was revolutionized to house a camera lens and the technology to take and share photos was implemented (News, 2004). This was the beginning of a technological revolution for the once over-sized, bulky, and hardly mobile idea of the cellular phone into the now various forms of “mobile, smart technology” available on the global market to be used for almost anything. Since 2007, whether it be emailing vacation videos to your aunt in Milan, making songs on a virtual piano, or video calling your boss from the job site, mobile smart devices have opened a new world of immense opportunity for everyone, including those in the higher education sector. This mobile education style, similar to electronic learning (E-Learning) and distance learning (D-Learning), is known as mobile learning. Referred to commonly as M-Learning, this learning style combines several aspects of D-Learning and E-Learning so as to include electronic submissions and lessons while information is still being taught and learned from a distance (Georgiev, Georgieva, & Smrikarov, 2004).

It has been discussed within the Agricultural Communications and Journalism department at Texas A&M to address evolving learning styles in the higher education setting to better teach students. It is for this reason that I will be addressing the issue: what aspects and styles of currently used mobile application features do Agricultural Communications and Journalism students at Texas A&M University prefer to use?

CHAPTER II

REVIEW OF THE LITERATURE

Learning Behaviors

Learning seems to have evolved over time to become more effective with the understanding of learning styles. Learning styles are simply teaching patterns or behaviors that can be effective for educators to use to inform students of different backgrounds or schools of knowledge (Schmeck, 1988).

As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance. It should be clear, however, that a behavioral intention can find expression in behavior only if the behavior in question is under volitional control, i.e., if the person can decide at will to perform or not perform the behavior. (Ajzen, 1991)

In his 1991 article on planned behavior, Ajzen points out that one of the strongest aspects leading to carrying out planned behaviors is perceived control over a scenario. These ideas of control, according to Ajzen (1991), majorly stemmed from second-hand information about the behavior from friends and acquaintances who have experienced the scenario before.

Examining the findings of Schmeck (1988), and Ajzen (1991), it can be obviously concluded that learning is a behavior that is performed by those being taught. Learning that is of low relevant interest to the student, or learning that is forced to occur will not be as effective for students as it is under conditions where the information being taught is considered to be relevant and optional. This conclusion led this study in the direction of finding a better way to connect with students on a level that they find relevant, interesting, engaging, and unforced.

Where Does M-Learning Fall?

Through the evolution of teaching styles it has become more apparent that different students benefit from different learning styles (Watkins, 2009). Watkins identified three learning styles predominantly used by today's educators to embody all types of learning styles; active learning, collaborative learning, and learner-driven learning (Watkins, 2009). However, we must ask, in what category does learning through mobile technology fall under, and what learning style does it conform to?

In most modern senses, M-Learning is a part of E-Learning, because the vast majority of all learning that occurs on mobile media is electronic-based (Georgiev, Georgieva, & Smrikarov, 2004). Similarly, E-Learning is very much a part of D-Learning because most learning that takes place over electronic media is not always within the classroom, and is often times accessed almost exclusively from places other than the classroom. This can be clearly seen in Figure 1.1 below, as presented by Georgiev, Georgieva, and Smrikarov (2004).

Figure 1.1: Georgiev, Georgieva, and Smrikarov's diagram of learning types.

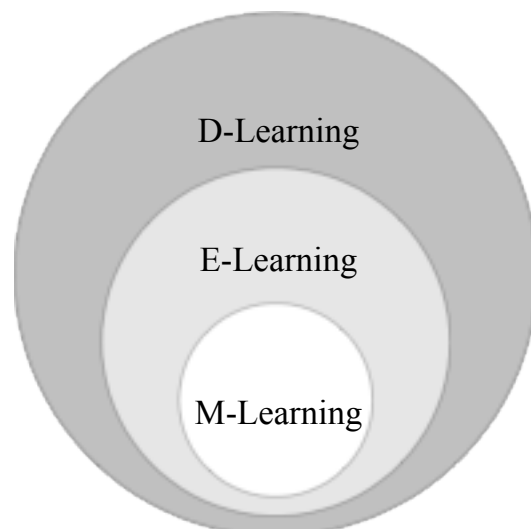


Figure 1.1: The place of M-Learning as part of E-Learning and D-Learning

In their book, *Promoting Active Learning: Strategies for the College Classroom*, Meyers & Jones (1993) defined active learning as a learning style in which students actively receive information that educators are also actively presenting. Actively learning appears to be composed of four elements that combine to form the basic foundation for active learning, as opposed to a more traditional style of learning, where teachers actively present information as students passively receive or hear the information, (Meyers & Jones, 1993). These elements include conversing, writing, reading, and reflecting (Meyers & Jones, 1993). Often when learning is hosted on mobile media formats, learners are required to interact with their subject of study, their classmates, and thus have an easier time closing the gap between student and educator in the case of requiring assistance.

Considering the findings of Meyers and Jones (1993) with the findings of Georgiev et al. (2004), yields the idea that M-Learning combines global accessibility with active learning styles, inviting students to learn about subjects in a way similar to how they learn outside of formalized education settings.

Mobile Technology in Learning

As the use of technology is increasingly incorporated into classroom settings, students are better able to adapt and thrive (Motiwalla, 2007). In a case study conducted by Schneckenberg, Ehlers,

and Adelsberger (2010), the idea that learning is a life-long process and not limited merely to learning institutions was underlined as the trio scrutinized what they deemed “e-learning 2.0”. Their findings exhibited the idea that web-based learning is an increasingly helpful tool in higher education settings (Schneckenberg, Ehlers, and Adelsberger, 2011). Students included in their case study used Internet-based Google apps to facilitate a frequent interaction with course material, fellow students, and ideas that they might come across while casually surfing the Web (Schneckenberg et al., 2011). Based on this study, it appears that learning styles of students are becoming more technologically centered, along with their general lives. It seems that when technology from outside the classroom is brought in, education benefits as a whole.

Mobile phones have also been suggested to be effective for higher-education purposes as seen by the work of Thornton and Houser (2005). In their study, Thornton and Houser examined 333 Japanese university students in English as a foreign language courses to determine if cell phones were commonly used by students, and whether email lessons were helpful in improving course grades (Thornton & Houser, 2005). Students who received mobile e-mail learned more, compared to students urged to regularly study identical materials on paper or through the Internet, and 93 percent of the students believed that electronic mail lessons were an effective teaching method (Thornton & Houser, 2005).

In their Web 2.0 Summit conference report “Web Squared: Web 2.0 Five Years On,” O’Reilly and Battelle (2009) pointed out how the Internet developed between 2004 and 2009, as it approached what many started to refer to as “Web 3.0” (O’Reilly & Battelle, 2009):

...we saw that the value was facilitated by the software, but was co-created by and for the community of connected users. Since then, powerful new platforms

like YouTube, Facebook, and Twitter have demonstrated that same insight in new ways. [The Internet] is all about harnessing collective intelligence. (*p. 1*)

O'Reilly and Battelle's (2009) study praised mobile technology in its evolution to become increasingly intelligent and useful for completing almost any imaginable task. In Green's (2010) ongoing campus computing surveys, he pointed out that as the number of students with smartphones increases—which almost half of all university students in the United States do already own smartphones—their expectation of educational technology for the smart devices also increases. The connection between students' consumer desires would appear to be coming together with their educational desires as education and social interactions continue to increasingly involve online interactions (Green, 2010).

Problems with M-Learning

As we examine the advantages of using mobile technology, we must also consider what issues arise when using mobile, smart devices in classrooms and their conjunction with M-Learning.

People are much more easily distracted when technology is being used to take the place of other conventional learning methods (O'Malley, 2003). Those who take notes in class on laptops or tablet devices are more likely to be distracted throughout the majority of the lesson than those who take notes using paper and pen (O'Malley, 2003). The problems posed by social media, games, and other productivity programs on mobile, smart devices appear to be a great roadblock to learning with educators who condone and promote the

usage of smart devices in their classrooms. Along those same lines, learning is hindered when instructors are not comfortable or familiar with specific apps, and when students do not know how to use a required application; they also feel deterred from pursuing learning through these applications (Want, 2009). This can be especially problematic in courses that are conducted exclusively through online media or smart devices.

Other things that also must be considered with problems concerning M-Learning is that if an inclusion of social media is present, the risk of cyber bullying or cyber stalking is always a concern (Green, 2010). According to Green, (2010) the number of reported instances of cyber bullying and/or cyber stalking increased from 15.8 percent in 2009 to 27.3 percent in 2010.

Significance of the Study

As we consider that mobile technology can be useful for more than just entertainment and production purposes, but also for higher education, we must also examine what users prefer to work with when they operate different applications. This study seeks to find relevance not only in the promotion of M-Learning utilization in classrooms at Texas A&M University, but also in discovering what students prefer and benefit from the most in mobile applications while using them alongside higher education courses.

The results of this study are intended to advise the administration at Texas A&M University in the College of Agricultural and Life Sciences, specifically those tailoring and reformatting Agricultural Communications and Journalism courses. The

implementation of mobile applications to be used alongside courses will likely be the most effective when they are tailored specifically to students taking the course, i.e. the participants of this study.

CHAPTER III

METHODS

The research design of this non-experimental quantitative study was descriptive in nature. This study will follow similar methods to those implemented by Brill & Galloway (2006), whose study sought to examine the usage of and attitudes toward classroom technologies in higher education settings. However, instead of sending out preliminary online questionnaires, refinement, and conducting a second round of questionnaires, this study will first conduct a focus group to determine relevant topics and important aspects of mobile technologies before sending out the final versions of the online questionnaire.

This used a focus group comprised of Agricultural Communicators of Tomorrow (ACT) members, to qualitatively describe students' initial concerns with mobile device applications and their usefulness in learning. Alongside that, we investigated the features and functions that seem to be most popular, easy-to-use, and purposeful for the learning environment of the AGCJ major. Because only concerns with finding out the needs and preferences of AGCJ majors and minors prevail, this structure is ideal and conducive to furthering the research.

After analyzing initial focus group results, a web-based questionnaire was developed so as to quantitatively describe which devices, apps, designs, and features are most popular. The survey also sought to determine what apps the majority of students deem easiest to navigate, and are most useful in everyday life.

Population and Sample

The Agricultural Communications and Journalism program at Texas A&M University included 375 undergraduate students during the spring 2013 academic semester.

According to Krejcie and Morgan (1970), a simple-random sample of 186 individuals would be needed to be reflective of the Agricultural Communications and Journalism students at Texas A&M University with a $\pm 5\%$ margin of error. A list of all students enrolled in the Agricultural Communications and Journalism program during the spring 2013 academic semester was obtained and searched for duplicate and omitted entries. The resulting list served as the frame for this study. The names of the students from the frame were entered into a Microsoft Excel spreadsheet in alphabetical order. Each member of the population was numbered in order, beginning with the number one corresponding with the first name of the alphabetized list. Individuals included in the list were then sent out an invitation to the online questionnaire via their Texas A&M email accounts. After 5 days, those who did not complete the survey were sent a reminder email inviting them to participate. After another 3 days, an additional reminder email was distributed, and another 4 days after that a final reminder was sent out to students who had not yet completed the online questionnaire. The online questionnaire was closed from further responses after 14 days of activation.

The ultimate intention and desire of this research is to advise the administration at Texas A&M University in the college of Agricultural and Life Sciences, specifically those tailoring and reformatting Agricultural Communications and Journalism courses, as to what mobile application features should be used alongside courses, and what will likely

be the most effective when they are tailored specifically to the students taking the course, i.e. the participants of this study.

The Current State of M-Learning at Texas A&M University

It appears that when technology from outside the classroom is brought in, education benefits as a whole (Schneckenberg et al., 2011). As students become increasingly accustomed to mobile technology and continuously being connected to one another through social media, it seems that traditional lecture styles embraced by many in higher education is becoming decreasingly effective with modern generations of students. It has been discussed within the Agricultural Communications and Journalism department at Texas A&M to address evolving learning styles in the higher education setting to better teach students.

It is for the reasons above that I will address the question: What currently used mobile application features do Agricultural Communications and Journalism students at Texas A&M University find easiest to use?

The primary objectives of this study are:

1. To describe AGCJ students' current use of mobile smart technology and mobile applications
2. To describe AGCJ students' perceptions of desirable mobile application features and the characteristics that they believe make them useful

CHAPTER IV

RESULTS

Focus Group

Students want to use social Media apps because according to them, it's a fast way to stay updated on the things they care about, which can range from world political news to sports updates, to who is getting engaged to whom in their friend circles.

Twitter was consistently viewed as the most desirable app to use and mimic, based on its ease of use and its newsfeed stream design. Convenience and accessibility is the biggest draw to use a mobile app over a website. The ability to personalize news feeds to show users the things that interest them is a huge benefit to users. Content and simplicity were also said to be one of the deciding factors for what students would use one app over the other for.

Students said that they don't want an initial information overload on the opening screen of an app. The ability to readily access class grades was also voiced as something students would look forward to in a mobile app. Students said they would not want notifications from other students who are asking questions in the class, rather they would prefer to hear primarily from the course instructor, since students tend to check social media more than email. In this case, the professor would be more effective in posting information to both the class app and email.

Students expressed a desire to access class notes from the app, usually on a tablet more so than a phone. Since students do most of their work outside of class, they would like a forum accessible outside of class to talk to other classmates about projects that isn't Facebook. Having access to

roster-based message boards would be good, but students don't want push notifications from the app when messages are posted. Students said if they could see another student's picture with their name when they post to message boards in an app, it would aid in making classes more personable and assist in better overall connections with classmates.

Online Questionnaire

The online questionnaire was completed by 79 Agricultural Communications and Journalism students at Texas A&M University. Out of the responses, 75.95% identified as students expecting to graduate in 2013 or 2014, while the other 24.05% identified as students graduating in 2015, 2016, or a later date.

When asked about access to mobile, smart devices, 98.73% of respondents claimed to own at least 1 mobile smart device, with majority (61.54%) of respondents reporting access to 2 or more mobile smart devices.

94.75% of survey respondents reacted positively (the other 6.25% were undecided) when asked if they would download a free mobile application to go alongside AGCJ courses. The majority of students (80.52%) own Apple products, such as iPhones (73.08%), iPads (32.05%), and iPod Touches (23.08%). Android users made up the next largest group of smart devices in the Agricultural Communications and Journalism major with 21.79% of students owning an Android device.

When questionnaire results were compared to focus group responses, students' affinity for social media apps were reinforced. When students were asked what apps they used most, basic phone functions, such as calling, emailing and messaging, came out as the most-used applications on their devices, followed immediately by social media apps and productivity apps.

CHAPTER V

RECCOMENDATIONS AND CONCLUSIONS

Should TAMU Create An App?

From online questionnaire results alone, Texas A&M University should move toward incorporating more M-learning style options for students to learn with. No students who took the questionnaire responded negatively to the idea of using an app alongside an Agricultural Communications and Journalism course. That should stand as a great indicator that students are willing to learn through M-Learning, which will promote better learning by the students. Since the most common complaints from students who had used apps alongside higher education courses in the past concerned connectivity issues and not the learning style itself, this once again clearly reiterates the benefits that apps meant to run along-side courses could have for students.

From focus group results, Twitter appears to be the most desirable social media application to use. Students had a low response rate to using the applications similar to the TAMU Mobile app because it incorporates too much information into a small space, it isn't visually appealing, and it is sometimes difficult to navigate the in-app apps. The suggestion by students to include a newsfeed, similar to Twitter, that allows them to select relevant information that they want to appear (such as posts from other classmates, videos, how-to .pdf files, and information related to class details) was voiced.

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