Journal of Agricultural Education
Volume 54, Number 4, pp. 149 – 161
DOI: 10.5032/jae.2013.04149

Factors Influencing Agricultural Leadership Students' Behavioral Intentions: Examining the Potential Use of Mobile Technology in Courses

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Mobile technology is pervasive at institutions across the U.S. The study was framed with self-efficacy theory, self-directed learning theory, and the unified theory for acceptance and use of technology. The purpose of this study was to assess undergraduate students' behavioral intention towards mobile technology acceptance in agricultural education courses. The population was undergraduate agricultural leadership students (N = 687) in a department of agricultural education at a land-grant university. Random sampling was employed to assist the researchers in answering the study's objectives and to generalize findings to the target population. Survey research was employed as the data collection method and descriptive statistics, correlations, and multiple regression were implemented to analyze the data. Three hundred forty-four students were surveyed and 88.10% (n = 303) of the sample responded to the survey. Self-efficacy, level of self-directedness, and GPA explained 32% of the variance of students' behavioral intention to use mobile technology. The data suggested students are accepting the use of mobile technology in academic settings to enhance learning. By developing a better comprehension of factors that influence student's behavioral intentions with mobile technology, institutions may improve student learning and better assist institutions achieve strategic objectives through disseminating institutional information with mobile technology.

Keywords: mobile technology; agricultural leadership students; unified theory of the acceptance and use of technology; self-directedness; self-efficacy

Mobile learning is the use of mobile technology devices such as smartphones or tablet PCs to allow learners the flexibility and accessibility to educational content (Arrigo & Cipri, 2010). The increasing of use of mobile technologies to deliver educational content is changing the landscape of our educational system. Mobile technology has the ability facilitate learners' learning process and create new and innovative learning opportunities (Jeng, Wu, Huang, Tan, & Yang, 2010). Lowenthal (2010) suggested mobile technology offers universities benefits such as increasing enrollment and broadening the student population both demographically and geographically. Students in this traditional age group arrive at universities with an abundance of experience with mobile technology. Smartphones are a mobile technology tool that is pervasive among college students and is showing a continuous increase in saturation (McContha, Praul, & Lynch, 2008). There is a difference in technology acceptance between students who are required to use mobile devices and those who use the devices on their own (Moran, Hawkes, & El Gayar, 2010). Perkins and Saltsman (2010) reported saturation of mobile devices among faculty and students is imperative for the implementation of mobile learning.

A better understanding of mobile technology is particularly important at the post-secondary level. Higher education institutions need to consider the extent to which mobile technologies offer the ability to enhance student learning and teaching practices (Dale & Pymm, 2009). The continued growth and development of mobile learning is dependent on student acceptance of this technology as a classroom tool. Student perceptions and adoptions processes should be considered when designing a mobile learning program (Park, Nam, & Cha, 2012).

Students have had positive viewpoints towards mobile technology. Koole, McQuilkin, and Ally (2010) found that students placed great importance on mobile technology devices permitting them the freedom to use the instructional tools they preferred. Case studies indicated student confidence in the usefulness and acceptance of a mobile learning environment (Martín & Carro, 2009). Clough, Jones, McAndrew, and Scanlon (2008) found smartphone users exhibited excitement towards informal learning activities.

Researchers are grappling with the implications of mobile learning. The key issue has become not whether mobile technologies should be used in educational settings but how these technologies are employed (Wang, Shen, Novak, & Pan, 2009). Mobile devices enable perpetual learners unprecedented access to learning (Gu, Gu, & Laffey, 2010). The critical question remains how to best use mobile technology in teaching and learning (Koszalka & Ntloedibe-Kuswani, 2010). Elias (2011) found the challenge of using mobile technology will force educators to rethink their teaching approaches. The novelty of mobile technology requires new ideas in regards to planning for its implementation. Sølvberg and Rismark (2012) suggested that mobile technology calls for new paradigms about learning to capture the interrelatedness between times, places, topics, technologies, and student learning.

While there is a lack of current research on intentions toward mobile technology among undergraduate agricultural leadership students, studies examining mobile technology in extension have been conducted. LaBelle (2011) studied the potential of developing smartphone applications in order to disseminate extension information. Carter and Hightower (2009) recommended research is needed on the use of mobile technology in extension programs due to the potential of expanding extension programs around the globe.

Priority 2 of the *National Research Agenda* for the American Association of for Agricultural Education (Doerfert, 2011) recommended researchers "develop and validate systems-based models that will advance our understanding of information and technology diffusion and its practice" (p. 8). While agricultural education researchers have examined factors that influence student learning in online courses (Murphrey, Arnold, Foster, & Degenhart, 2012; Roberts & Dyer, 2005; Strong, Irby, Wynn, & McClure, 2012), a lack of literature related to agricultural education students' acceptance of mobile technology exists.

Theoretical Framework

The theories used to scaffold this study were Bandura's (1993) self-efficacy, Grow's (1991) self-directed learning, and Venkatesh, Morris, Davis, and Davis' (2003) unified theory of acceptance and use of technology. Bandura indicated self-efficacy was the degree an individual's convictions regarding their capacity to inspire control over their own echelon of performance and over events that shape their lives. Self-efficacy influences an individual's drive to participate in an area of interest (Tschannen-Moran & Hoy, 2001). People with low self-efficacy tend to avoid difficult tasks, seeing these tasks as threats, while people with high self-efficacy approach identical tasks as something to be mastered and to gain a sense of accomplishment (Bandura, 1993). Self-efficacy impacts the extent individuals reflect, develop judgments, motivate themselves, and work (Bandura, 1977).

Self-efficacy theory has been employed to frame agricultural education studies. Stripling and Roberts (2012) used self-efficacy as the framework in a study of Florida preservice agricultural education teachers' math ability. Self-efficacy framed a study on Oklahoma agricultural education teachers' use of interactive whiteboards (Bunch, Robinson, & Edwards, 2012). Strong and Harder (2011) utilized self-efficacy to frame a study with Florida Master Gardeners.

Grow (1991) developed the staged self-directed learning model (SSDL) to explain the extent learners progress through stages of self-direction. The fundamental concept of Grow's model is focused on students contrasting aptitudes to respond to teaching that requires self-direction. An instructor can assist or hamper a student's development regarding enhanced self-direction (Grow, 1991). The SSDL delineated methods for teachers to actively groom students to progress into a self-directed learner. Grow recommended teachers work to meet numerous responsibilities because students inherently are in different stages of self-direction.

SSDL uses four stages to explain a student's level of self-direction. S1 students are dependent on the teacher throughout the learning process and prefer a teacher that is an authority (Grow, 1991). Grow found those students in the S2 category to be interested in the learning process and prefer an instructor that is a motivator. Students in the S3 category are involved in the learning process and prefer a teacher that is a facilitator. S4 students have reached the highest level of self-direction and prefer an instructor that is a delegator. The fundamental aspect of the SSDL is for students and teachers to be at equivalent stages in the model in order for self-directed learning to develop (Grow, 1991).

Agricultural education researchers have previously studied the level of self-directedness in a variety of agricultural populations. Stafford, Boyd, and Lindner (2003) investigated Texas 4-H members' levels of self-directed learning. The level of self-directedness among Louisiana agriscience teachers was assessed during a professional development session (Kotrlik, Redmann, Harrison, & Handley, 2000). Researchers have examined the level of Mexican farmers' self-directedness during rural development workshops (Tuttle, Lee, Kohls, Hynes, & Lindner, 2004).

Davis (1989) developed the technology acceptance model (TAM), from the theory of reasoned action, as an information systems model indicating individuals' acceptance and use of technology. Venkatesh et al. (2003) expanded on Davis' (1989) TAM and constructed the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT explains individuals' behavioral intentions to use an information system and subsequent usage behavior through four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003).

Venkatesh et al. (2003) reported performance expectancy is the degree an individual believes using an information system will help enhance job performance, and effort expectancy is the measure of ease associated with the use of an information system. Social influence is the extent to which the user perceives the importance of using the system from others, while facilitating conditions is the extent to which the user believes that the necessary infrastructure is in place to use an information system (Venkatesh et al., 2003). UTAUT can explain as much as 70% of the variance in behavioral intention to use a system (Venkatesh et al., 2003).

Researchers have employed the UTAUT in a variety of studies. Murphrey, Rutherford, Doerfert, Edgar, and Edgar (2012) used the UTAUT to frame a study examining the technology acceptance of Second Life™, social networking, Twitter™, and content management systems with agricultural education students. Lowenthal (2010) utilized the UTAUT to investigate the behavioral intention of students to use mobile technology for learning. The UTAUT was the theory employed in a study finding that age and gender moderated the effects of student use of mobile technology (Wang, Wu, & Wang, 2009). Chiu and Wang (2008) studied students' acceptance of web-based learning and used the UTAUT as the skeleton of the study. Faculties' level of mobile technology acceptance has been examined with the UTAUT. Anderson, Schwager, and Kerns (2006) utilized the UTAUT to study College of Business faculties' acceptance of tablet PCs to assist in teaching courses.

The UTAUT can assist researchers in determining the extent of students' acceptance and usage of mobile technology in courses (Garfield, 2005). Further research is needed to develop an understanding of the extent UTAUT can explain student acceptance of mobile technology at educational institutions (Straub, 2009). Learner acceptance progresses at different rates with new technology (Stockwell, 2008). Researchers should continue to examine the role of participant acceptance and usage of technology in educational contexts (Venkatesh, 2006). The combination of the self-efficacy , self-directed learning, and the UTAUT was utilized to examine students' mobile learning behaviors. This study was conducted to expand agricultural education literature regarding students' acceptance of mobile technology and to address recommendations from the National Research Agenda.

Purpose of Study

The purpose of this study was to assess undergraduate students' behavioral intention towards mobile technology acceptance in agricultural leadership courses at Texas A&M University. The study sought to:

1. Describe students' performance expectancy, effort expectancy, behavioral intentions, self-efficacy, and level of self-directedness with mobile technology;
2. Examine the relationship between self-efficacy, level of self-directedness and behavioral intention; and
3. Examine the effects of personal characteristics, level of self-directedness, and self-efficacy on behavioral intention.

Methodology

The study used quantitative research to address the research objectives. Quantitative research utilizes deductive reasoning to examine theories, numerical data, cause, and effect (Fraenkel, Wallen, & Hyun, 2012). The population of this study was (N = 687) undergraduate students enrolled in agricultural leadership courses at Texas A&M University. The independent variables in this study were gender, grade classification, grade point average, employment status, self-efficacy, level of self-directedness, performance expectancy, and effort expectancy. Behavioral intention to use mobile technology was the dependent variable in this study.

A combined 36 item instrument including a modified version of Tschannen-Moran and Hoy's (2001) Teacher Sense of Efficacy Scale, Richards' (2005) self-directed learning instrument, Venkatesh et al.'s (2003) UTAUT scale, and questions related to personal characteristics was used to collect data in order to answer the study's research objectives. Content validity of the combined instrument was assessed by distance learning researchers at Texas A&M University.

Tschannen-Moran and Hoy's (2001) Teacher Sense of Efficacy Scale was used to assess the self-efficacy aspect of students' usage of mobile technology. The Teacher Sense of Efficacy Scale was created using Bandura's (1993) self-efficacy theory (Tschannen-Moran & Hoy, 2001). The instrument used a nine-point summated scale for each item with anchors: 1 = *nothing*, 3 = *very little*, 5 = *some influence*, 7 = *quite a bit*, and 9 = *a great deal* (Tschannen-Moran & Hoy). The self-efficacy construct was assessed *ex post facto* for internal consistency and a reliability coefficient of .95 for self-efficacy was produced in this study.

Richards (2005) developed a self-directed learning instrument aligned with Grow's (1991) Staged Self-Directed Learning Model to examine students' level of self-directedness. The self-directed learning instrument included 24 items and included anchors: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Agree*, and 4 = *Strongly Agree*. Richards' (2005) self-directed learning instrument produced a reliability coefficient of α = .94 in this study.

The UTAUT scale was developed by Venkatesh et al. (2003) to assess the mobile technology preferences. Performance expectancy, effort expectancy, and behavioral intention were the UTAUT constructs examined in this study. Mobile technology preference was measured on a seven-point summated scale: 1 = *strongly disagree*, 2 = *moderately disagree*, 3 = *somewhat disagree*, 4 = *neutral (neither disagree nor agree)*, 5 = *somewhat agree*, 6 = *moderately agree*, and 7 = *strongly agree* (Venkatesh et al., 2003). Constructs of the UTAUT were calculated *ex post facto*. Performance expectancy earned a reliability coefficient of .92, effort expectancy = .91, and behavioral intention = .97 in this study. Thus, the internal consistency of self-efficacy, self-directed learning, performance expectancy, effort expectancy, and behavioral intention was reliable (Cronbach, 1951), and judged acceptable to dispense in order to answer the study's research objectives.

Survey methodology was utilized to collect data from the sample. The researchers constructed a web-based questionnaire in Qualtrics. The Tailored Design Method (Dillman, Smyth, & Christian, 2009) for constructing and distributing an electronic questionnaire was implemented for this study. A random sample (*n* = 344) of the targeted population (*N* = 687) was produced using random number generator in Excel. Fraenkel et al. (2012) reported the advantage of a random sample is the ability to produce a sample that is representative of the targeted population to assist the researcher in generalizing the results to the population studied.

The sample received an email notification and two days later received an email that included a link to the questionnaire in Qualtrics™. Two separate emails, both a week apart, were sent to non-respondents. Three hundred three (*n* = 303) participants responded yielding a response rate of 88.10%. According to Babbie (2010), researchers that achieve greater than an 85% response rate do not have to examine non-response error. Therefore, the results from this study can be generalized to undergraduate agricultural leadership students in the Agricultural Leadership, Education, and Communications at Texas A&M University.

The data was analyzed through the use of descriptive statistics, correlation coefficients, and multiple regression analysis. Descriptive statistics were utilized to analyze the level of students' self-efficacy, level of self-directedness, performance expectancy, effort expectancy, attitude toward using technology, and behavioral intention. Descriptive statistics allowed the researchers to describe the data in numerical form (Fraenkel et al., 2012).

Correlation coefficients were used to analyze the relationship between level of self-directedness, self-efficacy and behavioral intention. Fraenkel et al. (2012) suggested correlational research uses data to determine the degree of a relationship between two or more variables. Correlations signify the direction and magnitude of variable relationships between -1.00 and +1.00 (Davis, 1971).

Multiple regression analysis was used to understand the effects of personal characteristics, level of self-directedness, and self-efficacy on behavioral intention towards mobile technology acceptance. Fraenkel et al. (2012) indicated multiple regression assists researchers in determining a link among a criterion variable and two or more independent variables.

All participants were undergraduates (*N* = 303, 100%). Most of participants were male (*n* = 196, 65.10%) and seniors (*n* = 195, 65.00 %). One hundred forty-six students (48.70%) worked part-time, and *n* = 121 (40.30%) had a GPA (grade point average) between 2.99 and 2.50. Due to the results from a single department at Texas A&M University, findings were limited in scope and not generalizable beyond the target population. However, the results do offer researchers and practitioners insights on factors that influenced agricultural leadership students' behavioral intention of accepting and using mobile technology.

Findings

The first objective of the study was to describe students' performance expectancy, effort expectancy, behavioral intentions, self-efficacy, and level of self-directedness with mobile technology. Effort expectancy earned the highest score (*M* = 5.24, *SD* = 1.35) of the constructs in the UTAUT (see Table 1).

Table 1

Descriptive Statistics for the UTAUT Constructs.

Constructs	*N*	*M*	*SD*
Effort Expectancy	303	5.24	1.35
Performance Expectancy	303	5.06	1.37
Behavioral Intention	303	5.02	1.52

Note. Scale: 7 = *Strongly Agree* , 6 = *Moderately Agree*, 5 = *Somewhat Agree*, 4 = *Neutral (Neither Agree or Disagree)*, 3 = *Somewhat Disagree* , 2 = *Moderately Disagree*, 1 = *Strongly Disagree*.

As a part of the study's first objective, students' self-efficacy with mobile technology was examined (see Table 2). The highest scoring items were "How much can you do with mobile learning to learn effectively?" (*M* = 6.01, *SD* = 1.72) and "How much does mobile learning help you to follow course objectives?" (*M* = 5.84, *SD* = 2.00). The items with the lowest scores were "How much does mobile learning get you to believe you can do well in school?" (*M* = 4.98, *SD* = 1.90) and "How much does mobile learning help you value learning?" (*M* = 4.84, *SD* = 1.87).

Describing students' level of self-directedness was a part of the study's first objective (see Table 3). The item that earned the highest score (M = 2.83, SD = .92) was "I set my own goals for learning without the help of the instructor." The item that earned the lowest score (M = 2.83, SD = .92) was "I learn best when I set my own goals." The second objective of the study was to examine the relationship between students' personal characteristics, the level of self-efficacy, level of self-directedness, and behavioral intention (see Table 4).

Table 2

Descriptive Statistics for Self-efficacy

Constructs	*N*	*M*	*SD*
How much can you do with mobile learning to learn effectively?	302	6.01	1.72
How much does mobile learning help you to follow course objectives?	301	5.84	2.00
How much does mobile learning help you focus on educational content?	302	5.34	2.04
How much does mobile learning help you assist your peers with educational content?	301	5.32	2.06
How much does mobile learning motivate you to learn educational content?	301	5.19	1.89
How much does mobile learning help you use evaluation strategies?	301	5.19	2.06
Does mobile learning help you evaluate your own learning?	301	5.13	1.97
How much does mobile learning get you to believe you can do well in school?	301	4.98	1.90
How much does mobile learning help you value learning?	301	4.84	1.87

Note. Overall *M* = 5.31, *SD* = 1.66. *Scale:* 9 = *A Great Deal*, 7 = *Quite a Bit*, 5= *Some Influence,* 3 = *Very Little*, 1 = *Nothing.*

Table 3

Descriptive Statistics for Level of Self-directedness

	N	*M*	*SD*
I set my own goals for learning without the help of the instructor.	302	2.83	.92
I am willing to take responsibility for my own learning.	299	2.39	.80
I am capable of assessing the quality of assignments that I submit.	299	2.37	.97
I use resources outside of class to meet my goals.	301	2.30	1.01
I prefer that the instructor provide direction only when requested.	302	2.23	.87
I prefer individual work or a self-directed study group as the teaching delivery method.	300	2.21	.88
I have prior knowledge and skills in this subject area.	299	2.17	.96
I learn best when I set my own goals.	299	2.12	.95

Note. Overall *M* = 2.33, *SD* = .42. *Scale:* 4 = *Strongly Agree*, 3 = *Agree*, 2= *Disagree*, 1 = *Strongly Disagree.*

Table 4

The Relationship between Self-Efficacy, Level of Self-directedness, GPA, and Behavioral Intention

	Behavioral Intention		
Constructs	*N*	*r*	*p*
Self-Efficacy	301	.58	.00*
Level of Self-directedness	296	.33	.02*
GPA	299	.28	.03*

Note. Magnitude: .01 ≥ r ≥ .09 = Negligible, .10 ≥ r ≥ .29 = Low, .30 ≥ r ≥ .49 = Moderate, .50 ≥ r ≥ .69 = Substantial, r ≥ .70 = Very Strong (Davis, 1971).
*p < .05.

The third objective of the study was to examine the effects of self-directedness, self-efficacy, and personal characteristics on behavioral intention towards mobile technology acceptance. The regression model was significant and indicated a good fit, with F = 5.48, p < .05. GPA, self-efficacy, and level of self-directedness were significant p < .05 on behavioral intention. GPA was the sole *personal characteristic* that was significant on behavioral intention.

As self-efficacy increased one unit, behavioral intention increased .29 (see Table 5). As level of self-directedness increased one unit, behavioral intention increased .22. As GPA increased one unit, behavioral intention increased .11. The regression model for this study was illustrated as: behavioral intention = .24 + .29 self-efficacy + .22 level of self-directedness + .11 GPA. Overall, the model accounted for (32%) variance in undergraduate agricultural leadership students' behavioral intention to accept and use mobile technology.

Table 5

Summary of Multiple Regression Analysis of Self-Efficacy, Level of Self-directedness, GPA and Behavioral Intention (N = 296)

	B	*SE B*	*p*
Intercept	.24	.28	
Self-Efficacy	.29	.05	.00
Level of Self-directedness	.22	.09	.01
GPA	.11	.17	.04

Note. R^2 = .33; Adjusted R^2 = .32.

Conclusions

The findings of this study are limited to the population of undergraduate agricultural leadership students at Texas A&M University. Literature indicated prior research had found indications of student inclinations towards mobile learning but suggested the need for more examination into students' mobile learning acceptance. The results of the study provide data on students' levels of acceptance in regard to mobile learning thus supporting the need for research in the literature.

The use of mobile technology could change the way students approached learning. Undergraduate agricultural leadership students agreed they would use mobile technology and the tool would contribute to their learning. It is understandable to observe GPA having a significant correlation to behavioral intention as grades have driven intention for undergraduate students more so than graduate students in numerous studies. Measuring mobile learning saturation and the relationship to mobile learning acceptance was not an objective of the study. The researchers examined the acceptance mobile learning and the relationship to self-efficacy and self-directedness. The data suggests self-efficacy and self-directedness drive acceptance.

While the correlations suggested students with high self-efficacy and self-directedness are more likely to use mobile technology to learn, the data also suggested students with less self-efficacy and lower levels of self-directedness are less likely to use mobile technology to learn. If mobile technology has any effect on learning for students with less self-efficacy and lower levels of self-directedness, is still unknown. This group of students may have had less self-efficacy and lower levels of self-directedness regardless of whether or not mobile technology is present in the learning process and design of the course.

Implications

The results of the study build upon our knowledge base of Bandura's (1993) self-efficacy, Grow's (1991) self-directed learning, and Venkatesh et al.'s (2003) UTAUT. Self-efficacy and self-directedness were significantly correlated with behavioral intention. Results indicated the combined theories, Bandura (1993), Grow (1991), and Venkatesh et al. (2003), accounted for variance in students' behavioral intention towards mobile technology acceptance.

Highly efficacious individuals are likely to confront new tasks (Bandura, 1993). Students with high self-efficacy may see mobile technology as engaging in a new task, therefore supporting their higher levels of behavioral intention. Moreover, they may assume the use of a technology tool where there is extreme comfort as non-threatening and therefore making the task much easier to accomplish. Bandura found individuals with low self-efficacy are likely to avoid endeavors perceived as difficult. Students with lower self-efficacy scores could perceive mobile technology as a difficult endeavor or just not worth the effort, therefore accounting for a lower level of behavioral intention towards acceptance of the technology.

Grow (1991) found students prefer specific types of instruction depending on their level of self-directedness. According to the data generated from this study, students at a higher stage of self-directedness may view mobile technology as a good instructional complement explaining their higher levels of behavioral intention to accept the technology. Students with high levels of self-directedness are also much more apt to adopt new strategies than students with lower self-directedness (Grow, 1991). Students, in this study, with lower levels of self-directedness could also identify mobile technology as a poor instructional fit explaining their lower levels of behavioral intention to accept the technology (Grow, 1991).

The greater the behavioral intention the more likely an individual will accept an information system (Venkatesh et al., 2003). Behavioral intention in accepting mobile technology was dependent on the student's level of self-efficacy and self-directedness. Venkatesh et al. found that the UTAUT could explain as much as 70% of an individual's acceptance of mobile technology. The researchers' regression model explained 32% of the variance in the behavioral intention construct towards mobile technology acceptance.

Recommendations

Agricultural leadership faculty in Agricultural Leadership, Education, and Communications at Texas A&M University should develop a comprehension of students' self-efficacy, level of self-directedness, and GPA when preparing to use mobile technology as an instructional tool. Instructors can work to increase students' efficacy and self-directedness therefore increasing behavioral intention towards mobile learning acceptance. The inclusion of mobile technology in courses is critical for faculty and students to partake in mobile learning opportunities (Perkins & Saltsman, 2010). Courses with assignments that include student presentations and group projects can motivate students to submit their assignment on a Tablet PC or smartphone device. Jeng et al. (2010) indicated mobile technology can construct innovative learning experiences. Granting students the ability to submit assignments on a mobile technology device may not only improve students' efficacy and self-directedness with mobile technology and produce much more robust results, but also provide the instructor more time in class to expand teaching opportunities by saving time allotted for student and group presentations in class. Student's familiarity with the technology tool can also enhance the learning experience as they investigate various ways to present the material. Instructors can also increase students' efficacy and self-directedness with mobile technology by permitting students to present their assignments in class on mobile technology versus PowerPoint slides. The acceptance and usage of mobile technology is ubiquitous among college students (Park et al., 2012).

Mobile technology acceptance and usage of faculty in Colleges of Agriculture and Life Sciences should be examined. Instructors' effect on student mobile learning acceptance and self-efficacy was not examined in the study. A study examining instructor influence on mobile learning acceptance, including active curriculum involving mobile learning, is needed. Researchers cannot make the assumption that mobile technology may be omnipresent with Colleges of Agriculture and Life Sciences faculty, and that faculty have the behavioral intention to use mobile technology as a tool to teach students content from a respective course. Faculty in agricultural education departments' acceptance and use of mobile technology should be studied also to expand the literature and knowledge base of agricultural education as an academic discipline. Developing an understanding of techniques that may enhance our knowledge of the diffusion and practice of technology will assist our academic discipline to move forward (Doerfert, 2011). The information may benefit instructors to be more proficient in teaching with instructional delivery devices (Gu et al., 2010) that parallel student's lives anytime, anyplace (Elias, 2011).

Instructors should examine the levels of self-efficacy and level of self-directedness of students before introducing mobile learning. It would be of great interest to replicate this study with graduate students as self-directedness and self-efficacy is more prevalent in that age range of students. Understanding the role self-directedness (Grow, 1991) and self-efficacy (Bandura, 1993) plays in students' decision to adopt mobile technology should assist instructors in their decision to implement mobile technology, regardless of academic dicipline. This study should be replicated with two groups, one using mobile technology and one not to see if there was any difference. Actual behavior would become the dependent variable and not behavioral intention. The data may assist university administrators, researchers, and instructors in developing an understanding of the extent mobile technology can enhance student learning (Dale & Pymm, 2009) and help institutions broaden enrollment and expand their reach and scope (Lowenthal, 2010).

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