Examining the Blogging Habits of Agricultural Leadership Students: Understanding Motivation, Use, and Self-efficacy

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Abstract

Blogging is a form of social media and student engagement is at the center of blogging. The benefits of blogging include ease in making writing easier to share, encouraging students to write outside of the classroom, and supporting group collaboration. The findings suggest students are more passive in their blogging experiences, as the data found students generally read blogs more than they wrote blogs. The unified theory on the acceptance and use of technology and self-efficacy were used as the framework for the study. This study sought to explore agricultural leadership students' motivations for blogging in writing intensive courses. Effort expectancy, performance expectancy, and behavioral intention were significantly correlated with self-efficacy. Teacher training could be used to increase awareness among educators about the benefits of blogging. Educators must be able to convey the benefits of educational blogging in terms of its ease and benefit in order to encourage student acceptance. Improved preparation of agricultural leadership instructors to include blogging in writing intensive courses may improve student engagement and learning, and increase our academic discipline's knowledge of approaches that influence the practice of technology diffusion.

Keywords: blogging, social media, self-efficacy, motivation

The Internet has emerged as a fast growing means of communication for students, and social media is the primary outlet for this communication. The growth of social media has afforded opportunities for the use of social media for educational purposes. Social media is a term used for a collection of Internet websites, services, and practices that support collaboration, community building, participation, and sharing (Junco & Chickering, 2010). The primary social media networks, a major category of social media, include Twitter™, Facebook™ and weblogs, or blogs, such as Wordpress® and Blogspot®.

A blog is an online journal that allows people to share information, convey material, and express their views (Brescia & Miller, 2006). The primary element that makes blogging "social" media is the comments. Without comments, blogging merely becomes just another online news outlet. With comments, blogging becomes a conversation that connects people who read the blog.

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Kirby and Kaillio (2007) likened blogs to unlocked diaries and found today's teens are more open about posting their personal thoughts online.

Blogging has dropped among teens in recent years, from 28% of online teens in 2006 to 14% as of 2010 but increased among older adults (Lenhart, Purcell, Smith, & Zickuhr, 2010). Teens and young adults are also commenting on blogs less, even though both teen and adult use of social networking has risen significantly (Lenhart et al., 2010). Andergassen, Behringer, Finlay, Gorra, and Moore (2009) found students are driven to begin blogging by a general will to write, test the blogging technology and socialize with their peers. Students who cease a blog or are unwilling to begin a blog, may do so because of concerns with a lack of privacy, a lack of immediate interaction, and the perception the service does not provide useful study information (Andergassen et al., 2009).

All of these technologies can become important tools in education through proper use. Blogging helps students become more comfortable with the digital world in order to better succeed in the twenty-first century workplace and provides an advantageous community where students can engage with topics outside of the classroom setting (Platt, 2011). Blogging also encourages students to reflect on their writing styles, and the public nature of blogging results in students being more cautious and deliberate with their writing. Blogs allow for self-direction within a public forum (Winer, 2003) but once published, remain open to public scrutiny. Luehmann and Tinelli (2008) found blogging, and more specifically the comments of like-minded individuals, helped reform-minded science teachers nurture a community of support, and almost all participants responded that blogging was a valuable asset to their professional learning. Ferdig and Trammell (2004) found blogging had four distinct advantages for learners; the use of blogs helped students become experts in a particular subject; gave students the chance to legitimately participate; increased student interest and ownership in learning; and provided opportunities for the sharing of diverse perspectives. Brescia and Miller (2006) found blogging to offer valuable reinforcement of academic course engagement and repeated exposure to coursework.

Student engagement is at the heart of educational blogging. Astin (1984) defined engagement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 297). Kuh (2009) suggested out-of-class engagement in educationally relevant activities is important to student success, and positively related to a number of desired outcomes of a college education. Junco (2011) found commenting on Facebook™ was one of the positive predictors of college outcomes such as grades and completion rates. Arnold and Paulus (2010) reported students read each other's work more than usual in order to get ideas on how to approach an assignment when using a social networking site. Boas (2011) indicated blogging as an effective way to encourage writing and the process approach to writing reflects the fact that blogging helped develop a relationship between the writer and his or her audience. Ferris and Hedgcock (2005) recommended a reader's background knowledge and experiences must be taken into account when writing for a blog. The specificity of blog topics enables writers to be aware of this information. Other benefits of blogging with regard to the writing process include, being easy to create and maintain, making writing easier to share, encouraging students to write outside of the classroom, and supporting group work and collaboration (Bloch, 2008).

Agricultural education researchers have examined the potential role of social media in coursework. Strong, Irby, Wynn, and McClure (2012) suggested the inclusion of social media tools in courses may enhance learning in agricultural education contexts. The need exists to continue studying social media acceptance in coursework as a line of inquiry to improve researcher and practitioner understanding of the potential impact in the learning process (Murphrey, Rutherford, Doerfert, Edgar, & Edgar, 2012). Settle et al. (2012) found prior association with social media in an educational setting led to more positive perceptions of social media within education. Due to the large percentage of students who routinely use Facebook™, there are more opportunities to connect students to the educational content through social media (Murphrey, Arnold, Foster, & Degenhart, 2012). Settle et al. (2011) found that students believed it was probably important to

know how to use online forums, video-sharing sites and blogs for future careers, with micro-blogs and social networking sites other than Facebook™.

Priority 2 of the *National Research Agenda* for the American Association 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). Junco, Heibergert and Loken (2010) found the use of Twitter™ was important in engaging students for academic and psychosocial development. Integrating these technologies effectively is important, as improper use can have consequences on students' perceived benefits of social media, and to keep in mind which tools are perceived primarily for entertainment use versus informational tools in students' minds (Rhoades, Friedel, & Irani, 2008). While there is literature related to agricultural education students and social media tools, none of the current literature examined students' blogging habits and the potential role of blogging to improve student learning. Thus, this study was conducted to advance the literature in the field of agricultural education and address recommendations of the *National Research Agenda* by examining technology acceptance and use of agricultural leadership students in an effort to determine best practices and instructional systems approaches.

Theoretical Framework

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh, Morris, Davis, and Davis (2003). The model is a combination of eight different models of technology acceptance. The UTAUT has four core determinants, which consist of performance expectancy, effort expectancy, social influence and facilitating conditions. These are factored in with gender, age, experience, and voluntariness of use to identify behavioral intention. A longitudinal study found this model is able to explain approximately 70% of users' acceptance of the technology, compared with the other models that were able to explain 40% (Venkatesh et al., 2003).

Pardemean and Susanto (2012) used UTAUT to study student use of a blog to engage instructional material and found performance expectancy and social influence were significantly related to behavioral intention but effort expectancy was not significantly related to behavioral intention. A study by Avci and Askar (2012) compared blog and wiki use as constructive classroom tools with respect to perceived usefulness, perceived ease of use, intention, self-efficacy, and anxiety using UTAUT. Perceived usefulness and self-efficacy were the most effective variables in the study, explaining 71% of blog and wiki usage.

The second theory utilized to scaffold this study was the theory of self-efficacy. Bandura's (1993) self-efficacy theory revolves around four major processes, which include cognitive, affective, motivational, and selectional. These processes contribute to students' self-efficacy, which in turn contributes to the utilization of skills (Bandura, 1993). DeTure (2004) found more specific measures of self-efficacy could be used to better predict performance outcomes. Yi and Hwang (2003) found self-efficacy plays an important role in determining the actual use of technology.

Teachers and trainers' levels of self-efficacy have been examined by numerous agricultural education researchers (Bunch, Robinson, & Edwards, 2012; McKim & Saucier, 2013; Stripling & Roberts, 2013; Strong & Harder, 2011). Students' self-efficacy of technology tools has been previously studied. Wingenbach, White, Degenhart, Pannkuk, and Kujawski (2007) assessed Texas students' self-efficacy of agricultural science and technology objectives. Roberts and Dyer (2005) investigated students' self-efficacy of online learning at the University of Florida. Johnson, Ferguson, and Lester (1999) examined students' level of computer self-efficacy at the University of Arkansas.

Purpose and Objectives

This study sought to explore agricultural leadership students' motivations for blogging in writing intensive courses at Texas A&M University. More specifically, the objectives were to:

1. Describe students' level of effort expectancy with blogging;
2. Describe students' level of performance expectancy with blogging;
3. Describe students' level of behavioral intention with blogging;
4. Describe students' level of self-efficacy with blogging; and
5. Examine the relationship between effort expectancy, performance expectancy, behavioral intention and self-efficacy.

Methods

The target population for the study of blogging habits of agricultural leadership students was undergraduate students at Texas A&M University majoring in agricultural leadership. This was a census study of one hundred fifty-three ($N = 153$) students in three writing intensive agricultural leadership courses at Texas A&M University; leading change, leading and training adults, and technology instructional design strategies.

Data for the study were collected using a 29-item instrument, which included a revised version of Venkatesh et al.'s (2003) UTAUT scale, Tschannen-Moran and Hoy's (2001) Teacher Sense of Efficacy Scale, and demographic questions. The UTAUT scale focused on determining performance expectancy, behavior expectancy, social influence, and facilitating conditions. The variables focused on in this study were self-efficacy, perceived usefulness, and perceived writing ability. Content validity of the combined instrument was assessed by distance learning researchers at Texas A&M University.

The UTAUT scale was developed by Venkatesh et al. (2003) and used in this study to assess students' blogging preferences, with regard to performance expectancy, effort expectancy, and behavioral intention. Blogging 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 .82, effort expectancy = .86, and behavioral intention = .90 in this study. The internal consistency was acceptable of self-efficacy, self-directed learning, performance expectancy, effort expectancy, and behavioral intention (Cronbach, 1951).

A modified version of Tschannen-Moran and Hoy's (2001) Teacher Sense of Efficacy Scale was used to assess the self-efficacy aspect of students' usage of blogging. The Teacher Sense of Efficacy Scale was created using Bandura's (1993) self-efficacy theory. 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, 2001). The self-efficacy construct was assessed *ex post facto* for internal consistency and a reliability coefficient of .91 for self-efficacy was produced in this study.

Survey methodology was utilized to collect data from the sample. This sample was chosen for its randomness of students within the major at Texas A&M University because it was three different courses of varying sizes that were all populated by agricultural leadership students at various stages in their collegiate career. The researchers constructed a web-based questionnaire in Qualtrics™. The Tailored Design Method (Dillman, Smyth, & Christian, 2009) for creating and delivering an electronic questionnaire was employed for this study. 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.

Seventy (*n* = 70) participants responded yielding a response rate of 45.75%. The researchers examined early and late respondents to assess nonresponse error given that less than an 85% response rate was achieved. There were no significant differences found between early and late respondents and therefore, the results were generalized (Lindner, Murphy, & Briers, 2001) to the population (*N* = 153).

Data was analyzed by employing descriptive statistics. Franekel, Wallen, and Hyun (2012) indicated descriptive statistics provide researchers with numerical data that explains the independent variables in a study. Correlation coefficients were used to examine the relationship between effort expectancy, performance expectancy, behavioral intention, and self-efficacy. Franekel et al. (2012) suggested correlation coefficients describe the strength of diverse constructs within a study. Davis's (1971) definitions of the magnitudes of correlations were used to assess the correlation coefficients in this study.

The study assessed four personal characteristics of participants: gender, classification, grade point average, and employment. Out of 70 respondents, *n* = 43 (61.42 %) were male. Thirty-nine (*n* = 39) students (55.71 %) were seniors, 31 respondents (*n* = 31, 44.00%) had a GPA between 2.99 and 2.50, and 32 students (*n* = 32, 45.71%) were employed part-time. The findings are limited to the targeted population. However, the results provide agricultural leadership faculty at Texas A&M University and researchers facets that contribute to students' acceptance and usage of blogging in courses.

Findings

The first objective of the study was to describe students' level of effort expectancy with blogging (see Table 1). Kurtosis and skewness of the data were not an outcome as the data was normally distributed. Therefore, the descriptive statistics were presented versus data frequencies. The question, "Learning to operate blogs would be easy for me" earned the highest score (*M* = 4.51, *SD* = 1.89) of the effort expectancy construct in the UTAUT.

Table 1

Descriptive Statistics for the Effort Expectancy Construct Related to Blogging (N = 70)

Statements	*N*	*M*	*SD*
Learning to operate blogs would be easy for me.	70	4.51	1.89
I would find blogs easy to use.	70	4.47	1.77
It would be easier for me to become skillful at blogging.	70	4.14	1.94
My interaction with blogging would be clear and understandable.	70	3.99	1.95

Note. Overall *M* = 4.28, *SD* = 1.89. *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*.

The second objective of the study was to describe students' level of performance expectancy with blogging (see Table 2). The question, "I would find blogging useful in school" earned the highest score (*M* = 3.79, *SD* = 1.80) of the performance expectancy construct in the UTAUT.

Table 2

Descriptive Statistics for the Performance Expectancy Construct Related to Blogging (N = 70)

Statements	N	M	SD
I would find blogging useful in school.	70	3.79	1.80
If I blog, I would increase my chances of getting a good grade.	70	3.46	1.79
Blogging would increase my productivity.	70	3.30	1.64

Note. Overall *M* = 3.52 *SD* = 1.74. *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.*

The third objective of the study was to describe students' level of behavioral intention with blogging (see Table 3). The statement, "I like working with blogs" earned the highest score (*M* = 3.23, *SD* = 1.86) of the behavioral intention construct in the UTAUT.

Table 3

Descriptive Statistics for the Behavioral Intention Construct Related to Blogging (N = 70)

Statements	N	M	SD
I like working with blogs.	70	3.23	1.86
I intend to blog in the next 12 months.	70	2.94	1.98
I predict I would blog in the next 12 months.	70	2.91	2.09

Note. Overall *M* = 3.03, *SD* = 1.98. *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.*

The fourth objective of the study was to describe students' level of self-efficacy with blogging (see Table 4). Two respondents did not answer the self-efficacy statements.   The statement, "How much can you do with blogging to learn effectively?" earned the highest score (*M* = 4.56, *SD* = 2.00) of the self-efficacy construct in the instrument. The sample of self-efficacy was smaller due to two individuals not responding to the self-efficacy questions.

Table 4

Descriptive Statistics for the Self-Efficacy Construct Related to Blogging (N = 68)

Statements	N	M	SD
How much can you do with blogging to learn effectively?	68	4.56	2.00
How much does blogging help you assist your peers with educational content?	68	4.28	2.37
How much does blogging help you to follow course objectives?	68	4.18	2.50
How much does blogging motivate you to learn educational content?	68	3.91	2.28
How much does blogging help you focus on educational content?	68	3.91	2.48
How much does blogging help you value learning?	68	3.87	2.27
How much does blogging get you to believe you can do well in school?	68	3.85	2.37

Note. Overall *M* = 4.17, *SD* = 2.32. *Scale: 9 = A Great Deal, 7 = Quite a Bit, 5 = Some Influence, 3 = Very Little, 1 = Nothing.*

The fifth objective was to examine the relationship between effort expectancy, performance expectancy, behavioral intention, and self-efficacy. A significant relationship between behavioral intention (*r* = .53), performance expectancy (*r* = .37), effort expectancy (*r* = .22), and self-efficacy was found in the study (see Table 5). Behavioral intention had the highest correlation with a magnitude of Substantial (50 ≥ r ≥ .69).

Table 5

The Relationship between Effort Expectancy, Performance Expectancy, Behavioral Intention, and Self-Efficacy Related to Blogging

	Self-efficacy		
Constructs	*N*	*r*	*p*
Behavioral Intention	68	.53	*.00
Performance Expectancy	68	.37	*.00
Effort Expectancy	68	.22	*.00

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.

Conclusions

The study findings are limited to the sample and therefore cannot be generalized to a broad population; however, the data provides insight into blogging usage and acceptance among agricultural leadership students in writing intensive courses at Texas A&M University. The data suggested that while most students thought learning to blog would be easy, agricultural leadership students at Texas A&M University have low effort expectancy in relation to the task of blogging.

The data also indicated, even though students thought they would like to work with blogs, students were typically low in their performance expectancy as to whether blogging could be used to improve educational outcomes. The use of blogging for educational purposes will require effort to assist students in perceiving the educational value of blogging.

Implications

Students' self-efficacy in regard to blogging was low, indicating agricultural leadership students are not willing to engage in blogging as part of their educational process. Bandura (1993) found low self-efficacy resulted in a tendency to avoid tasks perceived as new or difficult. The study found agricultural leadership students' low self-efficacy resulted in lowered behavioral intention to use blogging for educational purposes. Venkatesh et al. (2003) reported low performance expectancy results in low behavioral intention. The study found students with low belief in the performance benefit of blogging do not intend to blog. Venkatesh et al. (2003) found effort expectancy is not well-formed until after experience with the technology. Because the survey respondents had low behavioral intention, and thus not much familiarity with blogging, effort expectancy was neutral.

The data supported Andergassen et al.'s (2009) reporting of students' negative perception of the benefits of educational blogging and Lenhart et al.'s (2010) findings of diminished blogging activities among young adults. Rhoades et al. (2008) indicated students were utilizing blogging in a minimal nature for classroom purposes. Agricultural leadership students do not believe in the use of blogging as an educational tool and were less engaged in blogging for non-educational readings. Agricultural leadership students' intentions toward the educational use of blogging could stem from

a lack of awareness and familiarity with blogging, particularly its benefits towards their instructional outcomes.

Recommendations

Future research should examine agricultural leadership instructors' attitudes and intentions towards educational blogging through the use of UTAUT. Researchers should also assess the effects of mandatory blogging in the agricultural leadership classroom on students' learning and peer interactions. The research gathered can be used to compare classrooms using educational blogging to classrooms where the process is not implemented. A qualitative research study could be conducted to investigate in-depth agricultural leadership students' attitudes and perceptions towards educational blogging and blogging in general. The data gathered from future research could inform educators of the benefits of educational blogging and how to increase its practice in agricultural leadership classrooms.

Researchers could also compare traditional online blogging acceptance among agricultural leadership students to the acceptance of newer forms of microblogging (e.g. Twitter™). Twitter™ reduces the journal like nature of traditional blogging to 140 character statements and has a continually growing user base. Services like Twitter™ leave the traditional blog behind creating a warehouse of smaller blogs in which users can only comment so much at a time. Twitter™ could be described as its writers renting a small apartment to state their ideas and comment on others' ideas, rather than developing the full house approach of a traditional blog. Researchers should examine whether Twitter™ has affected student participation in traditional blogs and if it can be used effectively for educational purposes. An examination of the effect of Twitter™ on writing skills would also be beneficial. Insomuch as the 140 character limitation does not always encourage the use of proper grammar and complete sentences.

Educational blogging can influence Priorities 2, 4 & 6 of the *National Research Agenda*. This study has examined the potential contribution of blogging to Priority 2: Technologies Practices Products, but the authors have not explored in depth Priority 4: Meaningful Engaged Learners. Possible future research could investigate how blogging can engage learners in various interactions within and outside of the formal classroom to enhance learning. Russell (1999) introduced the No Significant Difference Phenomenon, an annotated bibliography of works to conclude there is no difference in learning between traditional classroom learning and technology mediated learning. Future research comparing classes that use blogging technology with those that do not would be beneficial and reveal whether or not there is a significant difference in learning.

Future research should investigate the impact of educational blogging on Priority 6 of the *National Research Agenda*: Vibrant Resilient Communities. This Priority should not limit the definition of a community to be only a traditional community. Learning Communities are an integral part of present day classes. Blogging could be the glue that binds the learning community of the class together. Agricultural Education scholars should investigate the impact of blogging on this important priority.

Future practice should reward teachers and teaching assistants who are utilizing blogging within writing intensive courses and encouraging student use. Teacher training could be used to increase awareness among educators about the benefits of blogging in writing intensive courses. Educators must be able to convey the benefits of educational blogging in terms of its ease and benefit for student acceptance (Venkatesh et al., 2003). Improved preparation of agricultural leadership instructors to include blogging in writing intensive courses may improve student engagement and learning (Junco & Chickering, 2010), and increase our academic discipline's knowledge of approaches that influence the practice of technology diffusion (Doerfert, 2011).

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