

RUNNING HEAD: BLOGGING SELF-EFFICACY

Blogging Self-Efficacy: Do Age Group and Experience Really Matter?

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Abstract

There have been few studies examining the relationship between demographics and self-efficacy with an online instructional technologies. This study examines relationships among age group, prior experience, and self-efficacy with blogging (or web diaries) within graduate library school students at a major Southeastern university. The major findings indicate that there is an inverse relationship between age group and self-efficacy toward blogging, and that there is a positive relationship between prior-experience and self-efficacy toward blogging.

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Since the inception of alternative modes for delivering educational content-- audio-tape, videotape, satellite, video via telephone, computer, and most recently, the Internet--, researchers have studied how these delivery methods affect the learning process (Hess, Rotherham, & Walsh, 2004). While significant research has been done, no research to date has found a significant difference between strictly online learning and traditional classroom learning (Russell, 1999). Questions still remain about whether technology affects the learning process. The scope of this study will not examine whether online education constitutes quality education (Yang, 2004), or whether online education can increase incidental parameters of the learning process, such as learning goal orientation, enjoyment, usefulness, or ease of use (Yi, 2003). The broad goal of this study is to understand how self-efficacy toward learning is related to age group and prior experience within the context of learning technology.

Efficacy, is the ability to produce an effect, usually a specifically desired effect. Self-efficacy, then, is the perception of one's own ability to produce an effect. Measuring self-efficacy can allow us to better predict behavior outcomes, including attributes such as influence on choices, thought patterns, effort, resilience, emotional reactions and perseverance (Bandura, 1997) Self-efficacy is one of the building blocks of successful self-regulation, and self-efficacy can impact the success of online learning (DeTure, 2004). According to Compeau (1995), self-efficacy toward technology can be measured by using three main categories: Magnitude (the belief that you can do a computer task), Strength (the belief that you can do a computer task well), and Generalizability (the belief that you can do a certain computer task well, even if the environment has changed). These three categories form the basis for the instrument measuring self-efficacy toward blogging used in this study (Compeau, 1995).

Technology integration is often met with resistance from both teachers and students (Thompson, 2003). Research also shows that the maintenance and dependability of a given technology is correlated with how teachers and students feel about using the technology in the learning environment (Richardson, 2004). This study takes the time to stop, observe, and analyze the interaction between learners and technology.

One of the increasingly popular tools for creating interactive learning environments is blogging (web diaries). According to Dave Winer (2003) "A weblog

(blog) is a hierarchy of text, images, media objects and data, arranged chronologically, that can be viewed in an HTML browser.” Additionally, a blog is a single-author journal or web diary that is published via the Internet. Blogs can have many other features, but one feature that is shared by many blogs is the ability to allow a blog’s visitors to add comments on the blog. (Blood, 2002) Blogs are valuable for classroom learning because they allow both personal creativity and expression, and social interaction through commenting and linking such as referencing other blogs on one’s own blog (Ferdig & Trammell, 2004) .

There is some research suggesting that blogs are connected to a broader movement called “Web 2.0.” Web 2.0 is simply understood as “a bottom up organization of tools and activities that are housed on the Internet” (Orr, 2007). O’Reilly (2005) further explains that Web 2.0 is more than tools and technology on the internet. Web 2.0 is also a way for individuals to connect, communicate, and collaborate in ways that were limited with web 1.0. As this connection is made between the parts (blogs in this study) and the whole (Web 2.0 as a concept and phenomenon), one can capture a snapshot of the personality of Web 2.0 behavior by capturing behavior toward one of the components, blogging (Cooke, 2006).

Although much research has been done on blogging in higher education (Dearstyne, 2005), further research examining the relationship between self-efficacy towards blogging and various demographics could reveal more about how the learning experience for web 2.0 technologies such as blogging is shaped. The purpose of this study is to identify if the demographics of age group and level of prior experience are related to self-efficacy towards blogging. A paper survey instrument was administered at the beginning of the term before students had begun blogging in the course.

Since Bandura (1986) has theorized that there is some relationship among self-efficacy, prior experience, and age group, this study seeks to capture the relationship (if any) among age group, prior experience and self-efficacy toward blogging in this course. It was this study’s initial hypothesis that scores of self-efficacy toward blogging would not show a relationship in regard to age group and prior experience level.

Today’s librarians are finding it necessary to both learn about and teach Web 2.0 tools and concepts (such as blogging), and studies show that if self-efficacy toward a concept is raised, a higher competency of the task can usually be predicted (Bandura, 1977) . This study is a springboard for further research that will establish a learning environment where competence towards web 2.0 activities is increased. Such a learning environment can better prepare library school students for new trends in the organization of information.

Methodology

Environment

The participants in this study were enrolled in an introductory course used as a pre-requisite for all incoming graduate students in the library school at the major southeastern research-intensive university. The course introduces the students to the concepts of organizing bibliographies, library catalogs, and collections. Blogging is used as a learning tool for class content, and students are also asked to learn as much as possible about the concept and practice of blogging.

Participants

Out of the 49 total students enrolled in the introductory course, the sample was reduced to 26 because of incomplete data from 11 participants and non-participation from 12. The sample consisted of 10 males and 16 females. Nine of the respondents were between the ages of 22 to 27 years old, eight of the respondents were between the ages of 28 to 35 years old, and nine of the respondents were between the ages of 36 to 50 years old. Eighteen of the respondents had less than one year of blogging experience, four respondents had at least one year of blogging experience, one respondent had at least 2 years of blogging experience, three respondents had at least 3 years of blogging experience, and none of the respondents had been blogging for more than three years. The total active student population at the library school is approximately 100 students. The introductory course is one of the core courses of the library school, so this sample gave the largest, most general grouping of the population.

Data Collection Procedures

The students were given a survey of self-efficacy that asked for agreement with statements towards blogging at the very beginning of the course, prior to the course's blogging activities. The Likert scale instrument was based on a computer self-efficacy scale, with the three main categories of Magnitude, Strength, and Generalizability (Compeau, 1995). For this self-efficacy study, the questions were altered to match the topic of blogging. For example, an original item might have stated "I believe I am able to save files to removable media," and the revised item for this blogging study now states, "I believe I am able to post to a blog." A research assistant facilitated the use of a coding sheet so that the researcher was able to keep track of the individual respondent's answers while maintaining anonymity. Each respondent was asked to indicate his or her level of agreement with each survey item. Each survey item expressed a favorable or unfavorable attitude toward blogging. Additionally, at the end of the survey, demographics of age, gender, prior blogging experience (0-3 or more years), and favorite subject (math/science, English, social studies) are collected. Favorite subject is not discussed in this study: there were no statistically significant results.

Reliability & Validity of the Survey Instrument

In a previous pilot study at a major Southeastern research-intensive university's graduate school (n=73), the survey instrument received the Chronbach's alpha reliability rating of .890, thus supporting the reliability of the survey instrument (Carmines & Zeller, 1979). The survey responses were subjected to an exploratory factor analysis using a principle components analysis with a varimax, orthogonal rotation. Factor analysis is useful in providing validity evidence for the instrument. Factor analysis provides some of the tools needed to define the underlying dimensions of variables in construct validity. Of the 15 factors, there were three factors extracted with an Eigenvalue of 1.00 or greater. The first factor explained 57.723 % of the variance with all three factors explaining 76.853 % of the variance.

After examining the principal components solution, a three factor solution was retained that proved the best simple structure. These loadings were all above .683, which presents evidence to the construct validity for the instrument. The underlying dimensions identified by each factor are as follows: 1) blogging communication self-efficacy, 2) blogging flexibility self-efficacy, and 3) blogging search self-efficacy. Content validity was supported by three independent subject matter experts in Educational Psychology, Education, and Library Studies, who approved the survey.

Analysis Procedures

ANOVA and t-tests were performed to check for the effect of gender, age group, and prior experience. Chi square tests were also performed item by item to check for the effect of gender, age group, and prior experience.

Results

For the study, ages were grouped into three categories based on percentage of distribution (roughly 33% per age group): 1) 22-27, 2) 28-35, and 3) 36-50 years old. More analysis was done using chi-square to determine if there were any relationships among gender, age group, prior experience level, and the individual items. Significant relationships were found between age group and item 5 (“I believe I am able to search for other blogs that might interest me”) $\chi^2(8, N = 26) = 22.635, p = .004$; prior experience level and item 14 (“I believe I am able to use a blog reader very well even if the interface has changed”) $\chi^2(12, N = 26) = 24.796, p = .016$; prior experience level and item 13 (“I believe I am able to change the skin on a blog very well even if the interface has changed”) $\chi^2(12, N = 26) = 25.037, p = .015$; and prior experience level and item 7 (“I believe I am able to change the skin on a blog very well”) $\chi^2(12, N = 26) = 27.183, p = .007$.

Conclusions

In examining the significant relationship between age group and item 5 (“I believe I am able to search for other blogs that might interest me”) $\chi^2(8, N = 26) = 22.635, p = .004$, one could assume that as age increases, self-efficacy toward being able to search for blogs decreases, and as age decreases, self-efficacy toward searching for blogs increases. According to Bandura (1986), a possible reason younger age groups respond well to new concepts (in the case of this study, blogging) might not be because of the novel approach, but because of the resilience of the younger age groups towards new concepts and practices.

In examining the significant relationships between experience level and item 14 (“I believe I am able to use a blog reader very well even if the interface has changed”), item 13 (“I believe I am able to change the skin on a blog very well even if the interface has changed”), and item 7 (“I believe I am able to change the skin on a blog very well”), one could assume that as prior experience level increases, self-efficacy toward changing blog skins and using blog readers increases. Similarly, as prior experience level decreases, self-efficacy toward changing blog skins and using blog readers decreases. Self-efficacy research supports this occurrence by theorizing that self-efficacy is directly related to mastery experiences, that is, experiences where individuals have achieved a high level of competency (Bandura, 1977).

There were several limitations in this study. Because this research study was conducted in a one-group design, there were threats to external validity. Threats to external validity include interaction between testing and self-efficacy, and between selection and self-efficacy. Additionally, the sample size was quite small, so generalizability can only be tied to this population of this one class at the library school at the major southeastern research-intensive university where the study was conducted. Future experimental research could clarify how the self-efficacy toward blogging is influenced by time over the course of several different learning environments. By

understanding how and if self-efficacy is altered in a learning environment, the community of educators could then understand more about how to raise self-efficacy of learners that enter educational environments with low self-efficacy. Subsequently, even more research could be conducted to determine how self-efficacy is related to learner outcome.

What can be gained from this study is a greater understanding that there is the possibility of relationships among self-efficacy toward blogging, age group, and prior experience. Sharing this concept with other researchers and educational practitioners can provide the educational community with a starting point for in depth examination of the relationships among self-efficacy toward blogging, age group, and prior experience. One area of interest for graduate library schools is the preparation of future librarians for proficiency in the tools and activities of Web 2.0. Blogging is seen as a gateway to Web 2.0 tools and activities. By gaining an understanding about how to increase motivation and competence toward blogging, library educators can learn about pedagogical methodologies that can be applied to Web 2.0 tools and activities in general. Increasing motivation and competence toward Web 2.0 tools and activities will hopefully prepare library school graduates for the demands of tomorrow's workforce.

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