Blogging in the Classroom: A Preliminary Exploration of Student Attitudes and Impact on Comprehension

NICOLE B. ELLISON AND YUEHUA WU
Michigan State University
USA
nellison@msu.edu
wuyuehua@msu.edu

This exploratory study explores student perceptions of blogging in the classroom regarding (a) which specific characteristics of educational blogging (writing an entry, reading other students' blogs, or reading other students' comments on one's blog) are most helpful for understanding course content and (b) other aspects of the instructional blogging experience, such as the process of providing and receiving peer feedback. College students (n=52) completed a series of writing assignments, submitted either as traditional, hard copy papers or as blog entries (submitted online and reviewed by peers), and then completed a survey instrument probing their experiences and perceptions. Quantitative data analysis revealed that reading other students' blogs was believed to be most helpful for understanding course concepts. Analysis of the open-ended responses revealed a need for more guidance regarding the process of reviewing and critiquing the work of peers and appreciation for the way in which blogging exposed students to more diverse viewpoints from their peers. Pragmatic guidelines for instructors wishing to incorporate blogging into their classroom activities are discussed.

The use of educational technology has a long history, dating back to the use of sign writing to capture and transmit knowledge (Roblyer, 2002). In the more recent past, the use of computer technology in the classroom can be traced to the 1930s when instructors used audiovisual tools to de-
liver content in the classroom (Roblyer, 2002). Recent developments, such as web-based communication tools, can potentially support the seven principles for good practice in undergraduate education, such as reciprocity and cooperation among students and communication between faculty and students (Chickering & Ehrmann, 1996). The social and technical affordances of weblogs (or “blogs”) suggest that this medium can be utilized to support learning goals. However, more research is needed to determine how these new technologies can be incorporated into the classroom as pedagogically sound practices. It is especially important that we engage with this question now to avoid the common practice of adopting new technologies without gaining large-scale educational outcomes (Ehrmann, 2002). This study is an exploratory investigation into how instructors and students can capitalize on the unique communicative capabilities of blogging.

**LITERATURE REVIEW**

Many educators are excited by the potential for new Internet technologies, such as blogs, wikis, and online discussion groups, to reinvigorate student engagement and learning. The inclusion of new technologies may be more intrinsically engaging to today’s college students, whose daily media practices may include a wide range of technologies, including instant messaging, blogging, downloading audio and video files, and online role-playing games (Roberts, Foehr, & Rideout, 2005). These millennial learners may respond more positively to teaching practices that incorporate these tools to expand learning outside the classroom’s geographical and temporal boundaries (Oblinger, 2003). Young people ages 8 to 18 spend almost six and one-half hours a day with media, but because they often use multiple media simultaneously, they are actually exposed to the equivalent of more than 8.5 hours of media daily; about an hour of this time is spent using a computer (Roberts et al.). For many of these students, the Internet is tightly integrated into their daily communicative practices. Online technologies are quickly becoming incorporated into schoolwork as well. For instance, in 2002, 73% of college students surveyed reported using the Internet more than the library, and 58% of college students had used e-mail to discuss grades with a professor (Jones, 2002). It appears clear that for many of these young adults, online self-expression and media consumption is a deeply engrained, engaging part of their lives. In that today’s college-aged students have grown up with these tools, college instructors are likely to wonder whether and how these media might be incorporated into teaching practices, given the infor-
mational and communicative affordances they offer and the fact that many
students are already intrinsically motivated to use new media. If the Internet
is tightly integrated into the daily practices of millions of college students,
shouldn’t this be reflected in the teaching environment?

Recent work in the Scholarship of Teaching and Learning (SOTL)
field supports the view that active learning experiences are superior to pas-
sive models of instruction. For instance, Wickersham and Chambers (2006)
concluded that learning is best facilitated in contexts that include hands-on,
experimental opportunities and high levels of student participation, interac-
tion with peers, and student-teacher communication. In that Internet-based
communication technologies allow students to create and share their writ-
ing, as opposed to merely consuming texts selected by the instructor, these
tools are inherently well-suited to support these kinds of constructivist,
peer-focused experiences. Although blogging is the most recent incarnation
of these Internet-based writing environments, educational research has also
examined two related technologies: electronic discussion boards (also called
newsgroups) and electronic portfolios.

Discussion Boards

Of course, the ability to share one’s writing with millions of potential
users existed long before the introduction of weblogs. Online discussion
groups have allowed individuals to share ideas, information, and support
since the early 1990s, as documented by Rheingold’s (1994) book, The Vir-
tual Community. Early discussion group technologies included electronic
bulletin board systems (such as the original incarnation of the Whole World
‘lectronic Link) and Internet newsgroups. More recently, course manage-
ment systems such as Blackboard have enabled instructors to create online
discussion groups for students in which access is limited to those in the sys-

Gill (2006) presented a taxonomy of asynchronous discussion board
technologies used in instructional settings, and argued that blogs are essen-
tially a kind of discussion group. His definition of asynchronous discussion
groups included the following characteristics: textual entries; concurrent
access by a specified or unspecified (public) group of users; contributions
by other users in addition to the initiator of the discussion; organized con-
tributions; and accessibility on demand. Because blogs typically include a
separate area for reader comments, Gill treated them as a form of discussion
group. However, this treatment of blogs may obscure two important aspects
of blogging as a pedagogical tool: (a) the fact that student writing reaches a
far greater audience (the Internet public) and (b) the fact that the blogging format highlights the individual and unique authorial voice (as opposed to newsgroups which are typically organized by discussion thread, not author). In this sense blogging is more akin to electronic portfolios, as discussed in the following section. Regardless, the existing literature on educational discussion board implementations can provide some insight into the potential for blogs in academic contexts.

In thinking about the role of interactivity in web-based learning, Liaw (1999) notes there are several potential benefits of online group communication and “typically, group communication is collaborative learning” (p. 8). When learners interact with their peers or instructors, they are able to build their own knowledge and to share their knowledge with others—both important aspects of peer-to-peer learning. Similarly, interaction allows students to create knowledge and negotiate meaning, thus making the interaction both more engaging and more rewarding (Bibeau, 2001, as cited in Waltonen-Moore, Stuart, Newton, Oswald, & Varonis, 2006).

Determining the extent to which a particular technology contributes to educational goals is challenging. In addition to research design issues present in any educational study, Gill (2006) noted that “such benefits can be very difficult to measure and existing tools for measuring overall educational effectiveness—such as student evaluations—are generally not designed to offer tool-specific insights. As a consequence, any measure to be used will, at best, be an approximation” (p. 374). He presented several factors to consider when assessing the effectiveness of discussion boards in educational use: (a) whether or not participation is voluntary, (b) student satisfaction, (c) measures of educational outcomes, and (d) the degree to which a discussion group meets its design objective.

After reporting on several instantiations of discussion board implementations in introductory computer programming, MBA, and MIS classes, Gill (2006) concluded that “discussion groups can be extremely effective in enabling learning. The examples presented here demonstrate various ways in which these groups can contribute to student performance, self-efficacy and satisfaction” (p. 382). Other research suggests that integration of technology has the potential to increase student learning, although these claims must be considered in the context of the difficulties associated with this kind of research. For instance, Krentler and Willis-Flurry (2005) empirically examined whether technology enhanced actual student learning. In their study, they defined use of technology as students’ participation in class discussions on an online threaded discussion board; student learning as the students’ overall performance in the course represented by exam and project
grades; and technology use as percentage of participation in online threaded discussion. They found that students’ use of technology had a significant main effect on students’ learning in that the more students participated in the discussion board, the higher their grades. They interpret these results to argue that “students using the technology... benefited from that use through increased learning, as demonstrated by stronger course performance” (p. 319). However, it is worth noting that given the design of the study, causal claims should be treated with caution. Students who spend more time on a course-related discussion board may also spend more time on other course-related activities (such as attending class and reading), which clearly would contribute to higher grades.

Electronic Portfolios

“Electronic” portfolios (e-portfolios) are digitized collections assembled in World Wide Web sites or recorded media such as CD-ROMs (DiBiase, 2002). E-portfolio collections can include a wide range of material such as course assignments, student artifacts, and reviewer responses to student work (Gathercoal, Love, Bryde, & McKean, 2002). In the US, groups such as Educause and the American Association of Higher Education have examined the contribution of e-portfolios to learning, and the use of e-portfolios in academic settings has been the subject of much academic research.

Education researchers have identified some key benefits of e-portfolios that contribute to their effectiveness in educational settings. Based on the benefits identified by Huba and Freed (2000) and Linn and Gronlund (2000), DiBase (2002) summarized the potential benefits of e-portfolio use in education, some of which are shared with other online writing tools such as blogs. First, and most cited by researchers, is the fact that e-portfolios might increase student engagement through the act of creating, compiling, and editing. According to Yancey (2001, p. 83), “the engaged learner, one who records and interprets and evaluates his or her own learning, is the best learner.” In that online repositories such as e-portfolios allow students to create and edit a collection of materials, to see the progress they have made over time, and to reflect upon these changes, e-portfolios are believed to hold great opportunities for increased engagement and hence, learning. Wickersham and Chambers (2006) also noted that the use of electronic portfolios transfers the responsibility of learning to the student, allowing them to stay involved and engaged throughout the learning process and therefore keeping the focus on the learner-centered environment.
Second, e-portfolios provide opportunities to enhance information technology skills (DiBiase, 2002). The process of e-portfolio development usually requires students to develop transferable skills such as software expertise and Internet literacy, which "contribute to students' ability to use information technologies effectively throughout their academic careers and beyond" (p. 9). In relation to this point, Wickersham and Chambers (2006) conducted a study examining e-portfolio implementation in a master's degree program. They examined three student learning outcomes: (a) self-knowledge, (b) technological and organization skills development, and (c) knowledge and skills transfer. They found that the majority of students reported that developing an e-portfolio helped to build their overall technical skills and confidence using technology although their perceptions regarding the impact of the e-portfolio development process on the other two outcomes were fairly neutral.

Other benefits of e-portfolios exist as well, in that they may be able to harness intrinsic student motivation to tinker with technology and express themselves online. Some instructors have found that students are enthusiastic about the opportunity to use and develop their information technology skills and thus might be more likely to engage with the assignment (DiBiase, 2002). Other benefits instructors might experience from e-portfolios include more substantive student advising, easier management of student products, and clearer evidence of teaching effectiveness and change over time (DiBiase, 2002).

Because some of the technical characteristics of e-portfolios are shared by other related forms of online publishing, many of these potential benefits are shared as well. For instance, although blogs are typically limited to textual entries, many current blogging tools allow blog authors to include photographs, audio files, and other multimedia elements. This point becomes evident when examining the list of e-portfolio benefits outlined by McCowan, Harper, and Hauville (2005), many of which are features shared by blogging tools: accessibility; insight into the thinking processes of students; greater ownership of learning and self-empowerment; increase in the capacity for self-assessment and reflection; and greater access to a wider audience including employers. Other researchers have noted the similarities between blogs and earlier technologies such as e-portfolios. For example, Barrett (2004) examined the role of e-portfolios to promote deep learning and noted that blogging is well-suited to support learning portfolios.
Weblogs

Like the technologies that precede it, blogging has intrigued instructors, who are attracted to its seemingly intrinsic appeal to students and its social and technological affordances, and educational researchers, who struggle with appropriate methods to empirically assess its effects. Blogs are online public writing environments in which postings (individual writing segments, often containing hyperlinks to other online sources) are listed in reverse chronological order (Blood, 2002). Depending on the author’s wishes, blogs can include features such as links to other blogs, information about the author, and, most importantly, comments (feedback) from readers. According to a recent report, approximately 12 million Americans (8% of Internet users) maintain a blog, and 57 million American adults (39% of Internet users) read them (Lenhart & Fox, 2006). Additionally, 57% of bloggers are under the age of 30, suggesting that this trend is especially popular with younger adults and adolescents. Although exact statistics about the extent of educational blogging are not available, a recent survey in the UK found that about half of the responding institutions reported using blogs (Open Source Software Watch, [OSS Watch], 2006).¹

In addition to their growing popularity among young people, blogs are well-suited to the learning environment for a number of reasons. Primarily, the critical skill of writing is central to the act of blogging. Because the blogging format encourages students to engage with positions divergent from their own, blogging can potentially enhance analytic and critical thinking skills. Students may be more invested in their writing if they know they are writing for an Internet audience and their peers, as opposed to only an instructor. The “read/write” functionality of blogging, wherein readers are encouraged to comment on blog posts and thus become part of an evolving, public discussion, is a primary reason behind blogging’s popularity (Alexander, 2006) and is what differentiates it from other earlier forms of online interaction tools used by instructors, such as closed, threaded discussion fora. Additionally, the ability to express oneself in a digital environment, or “digital literacy,” is considered by some to be just as important, as evidenced by recent attention from industry and policymakers (New Media Consortium, 2005). Finally, blogging and other technologies may disrupt traditional communication and learning patterns in the classroom. For instance, the participatory and decentralized structure of blogging may discourage the “sage on the stage” approach to teaching and instead recalibrate communication patterns so that knowledge-sharing is increasingly student-to-student and student-to-instructor. Finally, incorporating online tools into
curricula has the potential to shift learning from a time- and space-bound activity that occurs only in the classroom within a specified period of time to an activity that is diffuse, ubiquitous, and concretely embedded in real world issues and events.

One of the earliest works to articulate the potential of blogs in the classroom is Oravec's (2002) article, "Bookmarking the world." Oravec argued that developing a weblog can enable students to develop a unique writing voice and to become more analytical and critical. As she wrote, "through actively responding to Internet materials, students can define their positions in the context of others' writings as well as outline their own perspectives on particular issues" (p. 618). In his book (Richardson, 2006) and blog posts, educational consultant Will Richardson drew upon his experiences with high school students and claimed that blogging allows students to:

a) reflect on what they are writing and thinking as they write and think it, b) carry on writing about a topic over a sustained period of time, maybe a lifetime, c) engage readers and audience in a sustained conversation that then leads to further writing and thinking and d) synthesize disparate learning experiences and understand their collective relationship and relevance (Richardson, 2004).

To summarize, given the fact that blogging exposes students to a wider audience for their writing, we can hypothesize that students might attend more carefully to online writing opportunities (as opposed to papers submitted to an instructor). In the case of the writing prompts that ask students to read and reflect upon specific texts, it might be expected that students will read these texts more carefully when they know their interpretations will be online and therefore accountable to a larger audience.

As blogging is a relatively recent format, the literature on blogging in the classroom is less developed than that examining other learning tools. As is common with a new teaching tool, much of the literature is anecdotal in nature, written by instructors reflecting on their use of blogging, and seeks to outline prescriptive measures to aid other instructors as they begin to implement blogging, such as recommendations about software and implementation strategies (Glogoff, 2005; Reinhart, Whicker, & Juetttemeyer, 2005; Richardson, 2006; Tryon, 2006). Additionally, there is little empirical evidence regarding the effectiveness of weblogs compared to other traditional forms of student writing. This gap is due to the relatively recent introduction of the medium, as well as the difficulty assessing the effects of new technol-
ologies in the classroom. Methodological constraints include the fact that true experimental designs are difficult to administer in the classroom setting; ethical and human subjects considerations regarding one's own students or minors as research subjects; and the wide range of possible explanatory variables (e.g., teaching style, size of class, psychological variables, students' pre-existing knowledge), which make definitive conclusions difficult.

A few empirical studies exist to date. Du and Wagner (2005) found that weblog performance was a significant predictor of learning outcomes for high and low performing students but not mid-range performers, while traditional coursework was not. However, they did not look at differences between online "learning logs" and traditional, paper forms of the same, thus making it difficult to analyze which aspect of the educational context was responsible for any observed results. Williams and Jacobs (2004) reported students' assessments of the effectiveness of blogging but collected no data directly measuring increases in comprehension or other variables.

In an attempt to reshape the discussion about the effectiveness of blogging in the classroom, this study attempts to address the following research questions through analysis of quantitative and qualitative data:

RQ1: What are differences among students' perceptions regarding the educational benefits of writing a blog entry vs. reading other students' blogs vs. reading other students' comments?
RQ2: What are student perceptions of the experience of blogging as an educational activity?

METHOD

Participants

This study was conducted in an undergraduate upper-level (junior and senior) nonrequired course at a large Midwestern university focusing on the social impacts of new communication technologies. Data collection took place over the course of the fall semester in 2005. A total of 68 undergraduate students were enrolled in the class. Demographic data for the sample are reported using the first writing assignment (WA) of the series, which had the highest response rate (76%, n =52).

Most of the respondents were juniors (n = 16) or seniors (n = 28), with the 20-21 (n = 28) age range being most common. The sample had more male students (n = 42) than female (n = 10) students and was primarily Cau-
casian (n = 31), with African-American (n = 11) and Asian (n = 6) constituting the next largest ethnic groups. The self-reported GPAs of the respondents ranged from 2.0 to 4.0, with most of the students reporting GPAs of 2.5 - 3.5 (n = 38). The N, assignment format, and response rate for each writing assignment is shown in Table 1.

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<th>Assignment</th>
<th>Format</th>
<th>N</th>
<th>Response Rate</th>
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<tbody>
<tr>
<td>WA1</td>
<td>Paper</td>
<td>52</td>
<td>76%</td>
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<tr>
<td>WA2</td>
<td>Paper</td>
<td>50</td>
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<tr>
<td>WA3</td>
<td>Blog without comments</td>
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<tr>
<td>WA4</td>
<td>Blog with comments</td>
<td>49</td>
<td>72%</td>
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<tr>
<td>WA5</td>
<td>Blog with comments</td>
<td>50</td>
<td>74%</td>
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<tr>
<td>WA6</td>
<td>Paper</td>
<td>51</td>
<td>75%</td>
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**Design and Procedure**

The students enrolled in the class completed a series of short (one to two pages) writing assignments over the semester as part of their graded requirements for the course. A total of six writing opportunities were provided, of which five were considered in the final grade for the course. Three of these writing assignments (WAs) were submitted in class as traditional, hard copy papers: the first two (WA1, WA2) and the last one (WA6). The other three WAs (WA3, WA4, WA5) were posted online as blog entries. Students created their own weblogs by using the blogging software of their own choice (typically Blogger), posting their entries, and then uploading the URL of the entry to ANGEL, a course management system, for grading purposes.

The interactivity and feedback found in commenting is a significant aspect of the blogging experience. Therefore, commenting was included in two of the three blogging assignments. For the third assignment, students were required to post their writing on their blogs, but with no requirement regarding peer feedback; for the fourth and fifth assignments, in addition to posting their writings online, students were also required to make at least two comments on peers’ entries in order to receive full credit. Due dates were staggered for WA4 and WA5, with peer comments due one class period
after the initial blog posting was due. Because the class was large, students were randomly assigned into groups of eight and exchanged the URLs of their posts within ANGEL for the peer commenting portion of the assignment.

An online survey was made available to students the day the assignment was completed and the analyses reported here are based on these survey data. Extra credit was awarded to students who completed the survey. To protect students’ rights and to prevent feelings of coercion on the part of students because responses were viewed before final grades were submitted, these surveys were collected anonymously, per the University’s Institutional Review Board. The survey instrument (available from the authors) included the following items:

- Demographic information: GPA, ethnicity, age, gender, class standing
- Items regarding student perceptions of how helpful different aspects of the assignment were in assisting them to understand the topic. These items were worded as follows: How helpful do you think this written assignment was for helping you understand [the topic of the reading, writing assignment, and lecture, e.g., social networking software]? How helpful was reading other students’ blogs for helping you understand [the topic]? How helpful was reading other students’ comments on your blog for helping you understand [the topic]?
- Open-ended items regarding perceptions of assignment: e.g., “If you have any comments or thoughts about the experience of reading other students blogs, please write them here” and “If you could change anything about this assignment, what would it be?”
- Behavioral and Comprehension items: reports of how much time students spent doing various aspects of the assignment and four multiple choice quiz questions testing knowledge of concepts from the reading.

Analyses that compared the comprehension and behavioral measures for the two media (paper and blog) were felt to be unreliable based on potential variation in quiz question difficulty and differences among the reading assignments and question prompts. The descriptive statistics that are included here are based only on the two blogging-with-comments assignments and are meant to give a rough context for interpreting the richer qualitative data that follow. Participants who reported spending zero minutes reading and/or
writing were excluded from analysis on the assumption that they could not comment knowledgeably on the differences between components of the assignment.

The writing prompts used for each of the assignments followed a similar format: they required students to demonstrate familiarity with the assigned reading for that day, synthesize the readings to some degree, and include their opinion in their response. Writing assignments were graded by the second author according to a simple grading rubric described in the syllabus. Students were given full credit for addressing each aspect of the assignment and demonstrating a familiarity with the reading. In the blogging-with-comments conditions, students were given credit for commenting on two peers’ blogs, but the content of their comments was not assessed.

Data Analysis

The first research question, which asked whether there were differences in student comprehension between formats, was addressed through quantitative analysis using SPSS. The second research question, which was concerned more generally with students’ overall perceptions of the experience of instructional blogging, was evaluated with a thematic qualitative analysis. Responses to the open-ended items were reviewed by the first author and categorized into themes. In the quotes that are included here, spelling errors and small grammatical mistakes were corrected, and the only changes were minor copy edits which attempted to preserve the participant’s voice.

RESULTS

Research question one asked about students’ perceptions regarding the benefit of specific components of the blogging assignment: writing their own blog entry versus reading other students’ blog entries versus reading comments made by other students regarding their own blog. Three survey items probed the helpfulness of the written assignment, the helpfulness of reading other students’ blogs, and the helpfulness of reading other students’ comments on their own blog. Mean scores for these items within each survey were compared. A series of three paired-samples t tests was calculated to compare the mean values of students’ perceptions of how helpful various aspects of the assignment were for gaining an understanding of the reading material and class assignment. Alpha levels were not adjusted given the
small number of tests and arguments against familywise alpha adjustment as explicated in O’Keefe (2003). The items were scored 5 = Very Helpful to 1 = Not Helpful, with 3 = Neutral.

For Survey 4, the first of the blogging-with-comments condition, reading other students’ blogs ($M = 3.89, SD = 1.30$) was significantly more helpful than completing the written assignment ($M = 3.36, SD = .92$), ($t(35) = -2.077, p = .045$). Similarly, reading other students’ blogs ($M = 3.89, SD = 1.30$) was significantly more helpful than reading other students’ comments on one’s own blog ($M = 3.51, SD = 1.27$), ($t(30) = 2.108, p = .043$). No significant difference was found between the helpfulness of writing the assignment and the act of reading other students’ comments on one’s own blog, ($t(38) = -.417, p = .679$).

A similar series of $t$-tests was conducted on the dataset for Survey 5 in order to explore differences among the perceived helpfulness of various aspects of the assignment. Reading other students’ other students’ blogs ($M = 3.78, SD = 1.38$) was significantly more helpful than reading comments on one’s own blog ($M = 3.38, SD = 1.40$), ($t(30) = 2.402, p = .023$). For this survey, no significant differences were found between the helpfulness of written assignment ($M = 3.52, SD = .96$) and the other two activities – reading other students’ comments ($t(36) = .572, p = .571$), and reading other students’ blogs ($t(35) = -.86, p = .396$). (See Figure 1)

![Means of Helpfulness Variables](image)

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Survey 4 | Survey 5

Figure 1. Helpfulness of writing, reading comments, and reading others’ blogs

Scoring: 5=Very Helpful; 3=Neutral; 1= Not Helpful
The second research question asked about student perceptions regarding the series of assignments. To gain insight into some of the findings and better understand the implications of instructional blogging, we examined the open-ended questions to look for themes surrounding students' experiences and perceptions. First, for many students, blogging was a new experience and comments indicated that the medium was uniquely engaging for students in a way traditional papers were not, as suggested by the student who wrote the following about the blog assignments: "something new, and different, writing on a blog page is better than writing a standard essay type, hand-in paper." In general, students expressed general approval of the blogging medium, citing the added convenience and the uniqueness of the medium, although students also mentioned technical concerns, such as experiencing anxiety about whether the assignment had been received.

Secondly, blogging may have encouraged a different, less formal, writing voice. A particularly interesting comment in response to the question, "What did you like best about this assignment?" for one of the blog-with-comments assignments was this: "I like the ease of the form of a blog entry, I feel as if I can talk in my own voice, more than I can with a written paper assignment." The idea that blogging was perceived as requiring a less formal voice than a traditional paper was echoed by another student, who wrote in response to a question which asked whether the assignment would be more effective if it was submitted as a blog entry as opposed to a traditional paper, one student wrote: "No, blog entries are stupid. I prefer a traditional paper as opposed to a blog entry personally. Blog entries appear less formal in thought than a traditional paper. Personally I don't take blog entries as seriously as I do a paper." These comments suggest that students associated blogging with a more casual writing voice. Potentially this medium elicited a more authentic form of writing, although the casual nature of the work, for some, might lead to less time spent on the assignment or a less thoughtful writing experience.

The interactive nature of the assignment, both in commenting and reading others' comments, was appealing to many students, who remarked on the fact that they liked reading and commenting on others' opinions. Representative comments include: "I liked the fact that we had to comment on others blogs. It's cool to get some feedback on what I've written" and "I felt it was really cool when one of the people actually cited what I said in my blog on someone else's blog. I think that brought everything together." This enthusiasm was mirrored in the open-ended comments for WA5, the second in the blogs-with-comments series, where one student wrote, "all the blog assignments are fun because you get to interact with the class on a more personal yet anonymous level."
Students also commented on the fact that reading other students' work exposed them to different perspectives and that they were surprised at the range of responses. For instance, one student wrote “I figured that my ideas on the readings and the writing topics would be similar or identical to other students, but I was wrong.” This theme was also echoed in the open-ended survey responses for WA6, a paper format after three blog formats, in which students noted the lack of interactivity. For instance, in response to a question about what she liked least about the assignment, one student wrote “no comments from other people, and not getting to read other people’s papers”; in response to a question about what could be changed, another student wrote, “I would of [sic] made this paper a blog because I would have really liked to see other peoples reactions to the article.”

The asynchronous and semi-anonymous aspect of blogging enabled interactions that might not have happened in a traditional classroom, especially those with large enrollments. When asked about reading others’ comments, one student replied: “It taught me some things that I didn’t pay much attention to before. It was cool because I was able to see what students thought about things we typically wouldn’t talk about in class.” The overwhelming theme was that students appreciated the potential for increased interactivity, as summed up by this comment: “they (comments) are nice to see when the person really puts thought into them, and sometimes make me think and want to write more.” One incident in particular appeared to exemplify the potential benefits of blogging’s expanded audience and clearly resonated with the students. In class one day, a student reported that he had received a comment on his blog entry from the author of the article his post critiqued, answering a question he had rhetorically posed. In response to the question about the effectiveness of blogs versus traditional papers, one student remarked on this incident, writing: “I think it is more effective using the WWW because anyone can view it and we saw that when Ryan’s blog was commented by the actual author of the piece we read.”

Students expressed negative feelings about commenting as well, most notably the question of whether any substantive feedback was provided by peers. While most students enjoyed the interactive nature of the commenting, not all students saw the educational benefit of reading others’ blogs, as evidenced by one comment in response to the survey item asking about the helpfulness of reading other students’ blogs: “I liked seeing what other people had written, but I don’t think that it helped me understand the issues. It appeared like people in my group had a lot of the same ideas.” Additionally, knowledge of the size of the potential audience for one’s blog posts made a lack of attention more distressing. When asked about what she liked least
about the last blogging entry, one student expressed frustration with the audience for her work: "The fact that I spent time thinking about it, writing it, and posting it on the Web but still know that only 1 or 2 people will read it is partially frustrating.”

Additionally, receiving and providing peer feedback (comments) made some students uncomfortable. The unfiltered nature of the comments from peers were distressing to some, such as the student who said she disliked “the potential for negative feedback” or another who was disappointed by the lack of feedback: “Nobody posted a comment to mine. :( ” Students expressed concern about commenting, both from the perspective of sender as well as receiver. Perhaps because little guidance in providing critical and appropriate feedback was provided by the instructor and many students had not previously experienced this kind of peer review, some students felt uncomfortable making comments that might be perceived as negative or insulting. In response to the question asking what they liked least about the blog-with-comments assignment, one student wrote: “Commenting on others blogs. Some people didn’t even write what they were supposed to. Plus, I don’t really know how to respond to other people’s ideas, I don’t want to tell them they are wrong or anything like that.” Another student explained, “I was not sure exactly what we were supposed to comment on, in regards to other people’s blogs.”

This lack of guidance was also evidenced by the comments themselves, which some students felt were bland or repetitious: “The comments were all pretty similar, so I wasn’t sure if people were just trying to be nice, or if they were being honest.” Another student tied the lack of substantive feedback to the coerced nature of the comments (which were required to receive full credit on the assignment but were not graded for content as were the blog entries): “The comment I received was... pointless, as the writer didn’t care and was clearly only writing what he is forced.” One person summed up the quality of the comments with this remark: “I don’t think this is very affective (sic) because I and others just express their same idea on others blogs instead of actually responding.” Other students expressed frustration with the shallow or shoddy quality of peers’ entries, which made giving feedback difficult: “I found it difficult to comment on the blogs of my peers, as some of them appeared to only write ‘rants’ and not actual, reasoned responses.” In summary, students enjoyed commenting but were not convinced of the pedagogical benefits, and appeared to desire more guidance in regards to structuring their remarks to be helpful as opposed to “preachy” or overly negative.

Technical problems were a challenge for some students as well, in part due to the awkward way in which peer commenting was organized (in which
students had to share URLs through the course management system). Students had problems accessing other students’ blogs, as evidenced by these two comments: “I especially liked that I got the chance to see what other classmates of mine thought about the specific topic. Although I couldn’t get to most of their pages b/c the URL didn’t work, the ones that I could read were very interesting.” “The format was frustrating: I could only respond to one blog because in ANGEL I couldn’t access the other blog URLs for some reason. It kept saying that it couldn’t open the window or something. It made me mad.” Limiting students’ access to only the blogs of those in their group, a strategy pursued by the instructor to ward off feelings of overload on the part of students, was also resented: “I wished it would have been easier to browse the student blogs that were not in my group.” Posting to one’s site also entailed its share of frustrations, summarized by one student who wrote: “I really don’t like blogs. They are more of a hassle than writing a paper with Microsoft Word. It takes time to set one up, if the Internet is down you can’t update it, and I never remember the password for something I use extremely infrequently.”

In short, student attitudes towards instructional blogging as implemented in this particular class were primarily enthusiastic yet also wary and ambivalent. The following two comments nicely summarize these tensions: “I enjoyed reading other student’s blogs because I like to expand my way of thinking; everyone has a different perspective on things.” “People have opinions, and I can only write what I see, but I restrain myself because I don’t want to sound preachy or start any arguments.”

**DISCUSSION**

In summary, students enjoyed certain aspects of blogging—the novelty and convenience of the medium, the less formal writing voice it encouraged, and the interactivity inherent in the assignment, specifically reading other students’ ideas and getting feedback on their own. They also found other aspects of the medium, such as being forced to critique others’ ideas or remember yet another password, stressful and aggravating. The open-ended comments provide insight into the quantitative findings, which suggest that when student perceptions regarding the differences between various characteristics of blogging are teased apart, the data suggest that students believe that gains in understanding are most likely to result from reading other students’ blogs as opposed to writing their own entries or reading comments from others about one’s entry. This preliminary finding regarding the peer-
to-peer learning potential of blogging needs further study, and should be confirmed by empirical evidence of learning. What is interesting is that explicit feedback on one’s entry was not considered as useful as the implicit feedback about one’s ideas found in others’ blog entries—implicit in that we can assume students are comparing their ideas to others. Additionally writing one’s own entry, which would appear to be the critical component of the assignment, was seen to be less helpful than reading others’ entries. This may be because students are benefiting from the diverse perspectives provided by their peers as opposed to the initial act of documenting their ideas.

It should be noted that one of the benefits of blogging, exposing one’s ideas to the larger world through creating and posting blog entries, emerged through the qualitative comments but did not show up as strongly in the closed-ended items. This may have been due to the fact that students’ blogs did not receive substantive feedback from those outside the class, other than the one instance in which an author commented on one of the posts. Some instructors have made an effort to publicize student blogs, going so far as to invite authors to comment on specific entries, and this kind of artificial attention may be useful for helping students realize the true nature of the outside audience.

When asked about their perceptions of the blogging assignments, students claimed to enjoy aspects of the assignment, such as the interactive features of the medium, the exposure to the divergent perspectives of their peers, and the access to a wider online audience. Blogging may have encouraged some students to write in a more authentic voice, which may be perceived as a benefit by some instructors but a limitation by others. Additionally, it should be noted that the particular instantiation of instructional blogging adopted by the study reported here may not have fully exploited blogging’s potential in the classroom, and more work needs to be done to understand which implementation formats are most likely to reap the benefits.

**IMPLICATIONS**

There are several implications of this work. Most importantly, blogging (like any new technology) is not a panacea and will not independently or autonomously increase student learning. Sound instructional techniques must be developed and practiced in order to achieve increased student learning. As argued by Mishra and Koehler (2006), content, pedagogy and technology dynamically affect one another in the classroom environment, and in-
Instructors need to consider each of these realms. Instructors need to utilize instructional blogging in ways that support the particular content area being taught and are also pedagogically and technically sound.

This study points to several implications for good teaching practice. First, students may come to the classroom with pre-existing notions of what a blog entry should look like and the appropriate writing voice to use. Qualitative data suggested that students associated blogging with a less formal writing style, which could result in less focused writing and editing effort. As one student explained, “Personally I don’t take blog entries as seriously as I do a paper.” Depending on the kind of course (for instance, a poetry writing course vs. a chemistry course) students may need guidance regarding how to reconcile their notions of ‘blogging’ with academic study. Instructors may wish to emphasize that blogging can engender a different, nonformal voice, or they may wish to use blogs as a proxy for traditional papers. Either way, these expectations should be made explicit to students.

Because students perceived reading other students blogs to be most helpful and due to the lack of feedback from the Internet public (with one exception) these findings do not offer clear guidance on whether instructional blogging should be limited to those within a particular class or opened up to the Internet public at large, or whether, as suggested by Gill (2006), blogging should be treated as just another form of discussion group—albeit one that is more public. A related question involves authorship and accountability. Theoretically, having students post under their true names should increase accountability and ownership of ideas. However, this creates a host of ethical and privacy concerns. First, privacy protections such as the Family Educational Rights and Privacy Act (FERPA) prevent universities from disclosing information about students without parental permission; forcing a student to blog under his or her true name may violate these policies, depending on the content of the posts. There are also ethical concerns regarding this practice. For blog sites that are public and archived by web crawlers, student words will be linked to their digital persona for many, many years, creating an ethical conundrum. Should students be held accountable for their words 30 or 40 years later? In this case, students were encouraged to blog using a pseudonym and the following notice was placed in the syllabus:

For this class, you will be asked to create a blog and to post some of your written work online. If you wish, you may create a blog that uses a pseudonym (a made-up name), or you may use your real name if you wish. This decision is yours and will have absolutely no bearing
on your grade... Keep in mind that blogs are a "public" space. This means that anyone in the world—including future employers, future close friends, family, etc.—can and may have access to your individual writings. You should monitor your own writings with this in mind.

Blogging under a pseudonym allows students to "own" their words as a unique authorial entity without having to own them for the rest of their career, which is especially important in classes where students are grappling with complex ideas for the first time or where it is important that they feel free to honestly assess their progress. It also frees them from having to engage in impression management, which may ironically hinder their ability to write in an honest authentic voice.

Instructors should also consider which technical implementation of blogging will best support their pedagogical goals and the needs of their students. The implementation used for this study was not optimal, and a course blog in which all students post to the same blog using different usernames would have allowed students to more easily access one another's entries. Concerns about overload on the part of students were unfounded, and limiting students' access to only a small subset of the class' blogs proved to be more frustrating than liberating. Blogging software packages such as Wordpress can also allow instructors to manage nuisances such as comment spam, as opposed to leaving students to contend with these issues on their own.

Finally, our data suggests that instructors wishing to implement peer feedback should give students guidance about how to provide constructive criticism. Instructors should emphasize that respectful disagreements are acceptable and helpful. A common theme expressed in the open-ended comments was that students felt uncomfortable criticizing others' work. Students may not have understood the difference between constructive criticism that focuses on the content of the work as opposed to attacks on character, as evidenced by concerns about appearing too aggressive or hurtful in their comments. Specifically, some students were uncomfortable commenting on others' work because they didn't want to tell other students they were "wrong." Guidance on constructive criticism would help both the original poster, by providing substantive feedback about their ideas, as well as the commenter, by encouraging them to engage with ideas on a deeper level. As suggested by Mishra and Koehler (2006), instructors need to consider pedagogical, technical, and content-specific knowledge when implementing a teaching strategy. In the case of blogs, instructors should give students guidance
on how to best incorporate blogging into their educational experiences. In short, although students may be exploring use of these technologies outside of the educational context, we can’t assume that these experiences can be layered successfully onto an educational model without guidance and perhaps intervention from the instructor.

LIMITATIONS

All students were from the same university and were primarily telecommunication majors, who may have had more familiarity with Internet technologies than students in other majors. Therefore, our ability to generalize to other educational contexts is limited. Also, although our response rate was high and students did receive extra credit for participating, we are unable to determine whether there was a bias in regards to who chose to participate in the study. Additionally, the sample was selected from those who elected to participate in a specific class and was not randomly selected.

CONCLUSION

Oravec (2002) wrote, “through actively responding to Internet materials, students can define their positions in the context of others’ writings as well as outline their own perspectives on particular issues” (p. 618). However, these findings suggest that students need explicit guidance in regards to defining their positions and reflecting on their ideas in the context of others’ writing. Only then can the pedagogical promise of blogging be met. Although this study may not have fully allowed students to exploit communicative and technical affordances of the blogging medium, we are hopeful that other scholars and teachers will continue the discussion and inquiry started here. Blogging can potentially provide students with a window into peers’ perspectives, a doorway to a global audience, and a mirror through which to reflect on their own thinking and writing.

References


Oravecz, J. A. (2002). Bookmarking the world: Weblog applications in education; weblogs can be used in classrooms to enhance literacy and critical thinking skills. *Journal of Adolescent & Adult Literacy, 45*(5), 616-621.


**Notes**

1. Note actual incidence may be lower, due to the fact that some institutions did not answer this question.
2. One of these assignments (WA5) was due the class period before Thanksgiving break; therefore comments on these postings were due one week after the initial posting.
3. These online surveys became available on the day the blog or paper was due (for the no-comments blogging condition) or on the day comments were due (for the comments condition) and were available for seven days. For the commenting format, therefore, there was a larger time gap between when the reading was done (necessary for completing the writing assignment) and when the survey could be completed.
4. Note that due to a flaw in the online survey, for two of the items (helpfulness of reading other students’ blogs and reading other students’ comments) responses that fell between “Very Helpful” and “Neutral” and between “Neutral” and “Not Helpful” were combined in the output and therefore were coded as missing data. There were between 7 and 11 of these for each item.
5. For instance, the following is the prompt for the assignment focused on a chapter from Rheingold’s (Rheingold, 2002) *Smart Mobs*: “Which of the following societies would you rather live in: one in which everyone uses WearComp like Steve Mann or one in which everyone and everything has an embedded RFID tag? Why? Support your preference with points from the reading and/or your own research, being sure to discuss the pros and cons of each scenario.”