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A REVIEW OF LITERATURE

Retta Guy[*]

Web-based technologies that support the social architecture of a community and enhance the effectiveness and value of personal interactions continue to emerge. As proposed by Bruns (2008), "the World Wide Web has been radically transformed, shifting from an information repository to a more social environment where users are not only passive receivers or active harvesters of information, but also creators of content" (p. 22). Web-based technologies now encompass the socializing features of virtual spaces that have emerged as zones for information sharing, collaboration, and community formation and extension (Suter, Alexander, & Kaplan, 2005).

Social media, derived from the social software movement, are a collection of Internet websites, services, and practices that support collaboration, community building, participation, and sharing (Junco, Heibergert, & Loken, 2010). As defined by Bryer and Zavatarro (2001), "Social media are technologies that facilitate social interaction, make possible collaboration, and enable deliberation across stakeholders" (p. 327). These technologies now include blogs, wikis, media (audio, photo, video, text) sharing tools, networking platforms (including Facebook), and virtual worlds (Bryer & Zavatarro, 2001).

The use of social media has surged globally in recent years. As of July 2011, Facebook passed 750 million users, LinkedIn had over 100 million members, Twitter had over 177 million tweets per day, and YouTube reached three billion views per day (Chen & Bryer, 2012). Despite

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the popularity social media for personal use, however, a low percentage of students and faculty use them for academic practice (Lenhart, et al., 2010; Tiryakioglu & Erzurum, 2010; Chen & Bryer, 2010).

As educators look for ways to engage and motivate students, social media technologies are becoming a viable supplement to the traditional learning environment (Ebner, Lienhardt, Rohs, & Meyer, 2010). Also, educators are examining the combination of distance education delivery with instructional social media, thus, providing new approaches to teaching and learning that blend pedagogy and technology (Brady, Holcomb, & Smith, 2010; Lee & McLoughlin, 2010; Veletsianos & Navarrete, 2012). The purpose of this literature review is to examine the use of social media in higher education. Specifically, this article reports on: (a) the use of social media by students and faculty; (b) the use of social media for academic practice in both traditional and distance learning formats; and (c) the pros and cons of using social media for academic practice. Previous reviews of the literature have suggested that access to technology is inequitable (Jackson, Ervin, Gardner, & Schmitt, 2001; Morgan & VanLegen, 2005) and that students of color are less likely to use technology, and therefore, have fewer opportunities to use social media tools than their white peers (Volman & van Eck, 2001). As such, this article reviews recent research on the use of technology and social media by students of color, and potential inequities in the use of social media for academic practice.

Social Media Use by Students

Today's college students (which consist of Baby Boomers, Generation Xers, and Millennials) are exposed to all types of technologies in many aspects of their lives (Browning, Gerlich, & Westermann, 2011). On a daily basis they use desktop computers, laptops, e-readers, tablets, and cell phones to actively engage in social networking, text messaging, blogging,

content sharing, online learning, and much more (Cassidy, Griffin, Manolovitz, Shen, & Turney, 2011). As documented in recent research, students and faculty are using these emerging technologies and platforms in all facets of their daily lives, specifically social media (Browning, et al. 2011; Chen & Bryer, 2012); yet, a low percentage of users are engaging in such for academic practice (Chen & Bryer, 2010; Lenhart, et al., 2010; Tiryakioglu & Erzurum, 2010).

A recent report from the Pew Research Center's Internet and American Life Project (Lenhart, Purcell, Smith, & Zickuhr, 2010) highlights the use of social media in the United States. A cohort of 2,253 adults (18 and older) was surveyed in September, 2009. The findings indicate that 72% of survey respondents use social networking sites with an increase in the number of profiles maintained on multiple sites compared to the prior year. Among profile owners, Facebook is currently the social network of choice (73%), whereas only 48% and 14% maintain profiles on MySpace and LinkedIn, respectively. Additionally, 19% of the survey respondents use Twitter while only 4% use virtual worlds such as Second Life. A number of survey respondents reported participating in content creation activities with 30% *"sharing"* self-created content such as photos, videos, and artwork; 15% *"remixing"* material such as songs or images to showcase their artistic abilities; and 11% *"blogging"* to inform, update, or notify readers about specific topics and/or events.

Liu (2010) investigated students' use of different social media tools and their attitudes and perceptions towards these tools. The author sought to identify the knowledge and trends of using 16 social media tools that included Facebook, Wiki, YouTube, Bulleting Board, LinkedIn, Blogs, Twitter, Podcasts, Virtual Worlds, RSS, StumbleUpon, Netlog, Delicious, Digg, Plurk, and Jaiku. Through an online survey, 221 students were asked to rate their knowledge level of each social media tool using a Likert scale of 1-4 (1=not at all knowledgeable, 2=somewhat

knowledgeable, 3=knowledgeable, and 4=very knowledgeable). The results revealed the following: (a) 82%, 77%, and 70% were either "very knowledgeable" or "knowledgeable" about YouTube, Wiki, and Facebook, respectively; (b) 42%, 41%, and 39% were "somewhat knowledgeable" about podcasts, blogs, and forums, respectively; and (c) 42%, 40% and 25% were "not at all knowledgeable" about virtual worlds, RSS, and Twitter, respectively.

The study results also revealed the top four reasons why students use social media tools. As reported, 85% use such tools for social engagement, 56% use them for direct communications, 48% use them for speed of feedback/results, and 47% use them for relationship building; however, fewer than 10% of the students mentioned using social media tools for academic practice. In a similar study, Browning, Gerlich, and Westermann (2011) surveyed 141 undergraduate students regarding their perceptions and beliefs about social media. A paper-and-pencil survey revealed strong favorable perceptions of social media in general and a high degree of readiness to embrace social media portals as a way to deliver course content.

Poellhuber and Anderson (2011) worked together to conduct a study aimed at describing the use of and interest in social media. A 90-item online questionnaire was completed by 3,462 students between July, 2009 and February, 2010. The demographic characteristics constitute a large percentage of females (75.3%) and students of varying ages categorized by five 8-year spans: Generation Z, 16-24 (37.2%); Generation Y, 25-32 (27.2%); Generation X2, 33-40 (16.1%); Generation X1, 41-48 (10.5%); and Baby Boomers, 49 and over (5.3%). In terms of user proficiency, the results revealed that a significant percentage of study respondents reported being either advanced or expert users of social networking (69.5%), video sharing (52.9%), photo sharing (33.7%) and blogging (25.4%) tools. Quite the reverse was reported for social bookmarking, virtual worlds, electronic portfolios, tweeting, Web conferencing, podcasting, and

wikis, as respondents self-professed lower levels of proficiency with such tools. In terms of interest in using social media for academic practice, the study respondents demonstrated a higher interest in using those social media tools for which they were most familiar. Ranked by the percentage of interested respondents, the list includes the following: video sharing (58.2%), social networking (52.8%), Web conferencing (42.6%), blogging (40.2%), photo sharing (36.4%), podcasting (33.7%), wikis (31.3%), electronic portfolios (28.5%), virtual worlds (19.4%), tweeting (18.5%), and social bookmarking (18.1%).

Early studies were conducted to determine if digital divides of access and use exists. In their ethnographic research on social networking sites, Boyd & Ellison (2007) found that students of color were just as likely to join sites as White students from wealthier backgrounds. Hargittai (2007) also examined a sample of college students and found that race did not have a significant relationship as to whether students used social networking sites.

Ahn (2011) conducted a study regarding students of color to determine if traditional digital divide indicators such as Internet access or parent education precluded the use of social media technologies by students of color. The results revealed that such indicators were not significant predictors of social media use by students of color; however, the frequency of use by ethnic minorities remained lower than those of White students.

Guy (2011) focused on the use of social media by students of color at several historically Black colleges (HBCs), a population that is underrepresented in the literature. The first study queried 261 undergraduate students regarding their personal use of social networking sites. Eighty-seven percent of the study participants surveyed reported having subscribed to either Facebook or MySpace while only 13% said they participate on Web sites as bloggers. Students were also asked to report their frequency of usage with specific online activities relating to social

networking. The results revealed that 53% of the students reported using Facebook and/or MySpace on a daily basis. Blogging was the activity students reported performing the least at 5% daily. A second, separate but related, study surveyed 155 students at a single HBC to determine the likelihood of students going online to actively engage in the use of a social networking. The results revealed that 5.5% were not at all likely, 7.1% not very likely, 11.6% somewhat likely, 23.2% likely, and 42.6% were almost certain of going online to use social networking sites. The same study reported that the majority of students (68%) subscribe to either Facebook and/or MySpace, 53% access these sites daily, and 18% reported frequent usage.

Summary

Specific indicators have emerged with respect to student use of social media technologies. In summary, this review has revealed the following:

- The use of social media by students for academic practice is surpassed by its use for social engagement, direct communications, and relationship building (Lenhart, Purcell, Smith, & Zickuhr, 2010).

- A larger percentage of female students use social media technologies (Poellhuber & Anderson, 2001) despite past studies that have reported that male students generally demonstrate more competence and a favorable attitude toward the use of technology (Jackson, Ervin, Gardner, & Schmitt, 2001; Miller, Schweingruber, & Brandenburg, 2000).

- A large percentage of social media use and expertise lies with college students between the ages of 18-24, also known as Generation Z (Poellhuber & Anderson, 2011).

- Facebook and YouTube are the two most commonly used social media technologies among all students (Guy, 2011; Poellhuber & Anderson, 2011).

The Use of Social Media in Traditional and Distance Learning Environments

The growing interest in social dimensions of learning has led educators and instructional designers to examine the integration of social media in both traditional and distance learning environments. The following sections examine the current research literature on the use of social media by faculty, and the use of social media for academic practice in a variety of ways that include sharing of resources, collaborative learning, inquiry-based learning and reflective learning.

Social Media and Faculty

Despite the worldwide growth of social media for personal use, educators have been slow to utilize social media technologies for academic practice. The Faculty Survey of Student Engagement (FSSE, 2010) surveyed 4,600 faculty members from 50 U.S. colleges and universities and discovered that over 80% of the faculty had never used social media technologies such as blogs, wikis, Google docs, video conferencing, video games, or virtual worlds.

Through telephone interviews, Chen and Bryer (2012) documented the perceptions and experiences regarding social media of 57 faculty members from 28 universities across the United States. The results indicated 100% use of social media either for personal, academic, research, or professional purposes, with the majority using Facebook for personal communication and LinkedIn for professional connections. Further probing regarding social media use for academic practice revealed that activities were designed as informal, open, and self-regulated reinforcements to classroom teaching. That is, participation in such activities was an option and

the use of conventional assessment (e.g. quizzes, tests) was absent. Major issues prohibiting further use of social media for academic practice point to time constraints and faculty workloads, cyber security and privacy issues, cyberbullying, and assessment strategies.

The published literature regarding faculty use of social media for academic practice cite cyber security, cyberbullying and faculty workloads for the lack of innovative practice; moreover, when used by faculty as a supplemental tool, social media activities were informal, open, and self-regulated (Chen & Bryer, 2012). Similar to student use, faculty are using social media technologies for personal communication, information sharing, and professional connections (Chen & Bryer, 2012; Tiryakioglu & Erzurum, 2010).

Traditional Learning Environments

Junco, Heibergert, and Loken (2010) examined the link between social media use and student engagement. The semester-long study consisted of two groups, experimental and control. With the experimental group, Twitter was used for various types of academic and co-curricular discussions, class and campus event reminders, faculty and student connections, providing academic and personal support, and organizing service learning projects and study groups for 70 students. Ning, a social networking site, was used to deliver the same course information to the control group of 55 students. Analyses of Twitter exchanges and survey responses showed that: (1) the experimental group had significantly greater increase in engagement and (2) both faculty and students were highly engaged in the teaching and learning process.

Daniel George (2011) developed a mini course entitled "Friending Facebook" for 15 healthcare students at Penn State. The mini course was designed with the use of a variety of social media tools as a means to provide participants with content through anecdotes and examples. For instance:

- Really Simple Syndication (RSS) readers – were used to track clinical trial data from multiple journals, to follow blogs originated by researchers, and to receive news and relevant literature regarding the latest trends in the healthcare industry.

- Twitter – was used to share and receive information from colleagues, health organization, and patients.

- Facebook and LinkedIn – were used as the course platform for networking among peers, faculty and medical professionals.

- Google Resources (Alerts, Mail, and Realtime) – were used as search tools that indexed Facebook posts and Twitter tweets and provided social updates on healthcare topics from around the world.

George (2011) conducted course evaluation which revealed that the majority of the participants were open to experimenting further with RSS readers and Google alerts; however, many expressed resistance to using the other social media tools on the grounds that they invite violations of patient privacy laws such as Health Insurance Portability and Accountability Act (HIPAA).

Deng and Yuen (2010) explored the role of academic blogs in supporting a group of 19 pre-service teachers in Hong Kong. Specifically, the purpose of the study was to investigate the pros and cons of using blogs to support self-expression, self-reflection, social interaction, and reflective dialogue among pre-service teachers. Xanga, a free commercial blogging platform, was used as a means of documenting, sharing, and reflecting on their teaching practice experiences. Quantitative and qualitative data were collected through blog frequency counts, questionnaires and interviews. The investigation revealed that only 13 pre-service teachers wrote 75 blogs entries with 62 comments exchanged; 13 participants acknowledged the values of blogs

with respect to self-expression, self-reflection, and the documentation of experiences; and 12 pre-service teachers felt more connected through blogging when compared to the teaching practice in the previous year.

Distance Learning Environments

Brady, Holcomb, and Smith (2010) examined 52 graduate students' attitudes toward and perceptions of social media at North Carolina State University. Ning in Education Network was created specifically for the College of Education to use in distance learning formats to include one fully asynchronous course and two hybrid, synchronous courses. The networking site was used as a core technological component in the fully online course and as a supplement component in the hybrid courses. Ning served as the venue for sharing and discussing course-related topics and for fostering collaborative connections across content areas. An online survey revealed that 70% of study participants in the fully online asynchronous course "agreed" that Ning allowed for more frequent collaboration compared to a face-to-face course and 82% "agreed" that the use of Ning was beneficial when communicating outside of the classroom. When comparing the Ning-enhanced, hybrid courses to traditional face-to-face courses, 42% believed that Ning allowed them to communicate more effectively; 74% felt that Ning allowed for more time to effectively reflect and comment on other student posts; and 50% "agreed" that Ning in Education was more convenient than face-to-face classes for sharing and discussing ideas.

Manan, Alias, and Pandian (2012) explored the possibility of blending a traditional, face-to-face course with online instruction using Facebook. The study participants included 30 third-year undergraduates enrolled in an Introduction to Critical Thinking course at a public university in Malaysia. Facebook was used as a platform for group discussions and chat, out-of-class

activities, uploading documents, and sharing information by posting texts, videos, pictures, and links. Based on the survey conducted using the poll question feature, the majority of students enthusiastically accepted the use of Facebook as a tool for online learning and found it to be both interesting and enjoyable. Additionally, students reported that the different approach to learning enhanced their understanding of theories and concepts relative to critical thinking.

Similarly, McCarthy (2009) explored blending virtual and physical learning environments to enhance the experiences of 120 freshmen design students through social and academic interaction. Facebook served as the host site to facilitate interaction through online forums and for submitting assignments. The evaluation process involved pre- and post-semester quetionnaires, weekly feedback from students and project-specific reflections. The findings suggest that "students were able to develop academic relationships freed from the constraints of the classroom and their own inhibitions, and over the semester online discussions evolved from formal academic critiques to informal social interactions" (McCarthy, 2009, p. 732).

Veletsianos and Navarrete (2012) describe the experiences of 10 graduate students in an online course facilitated through Elgg, an open source framework that encompasses such tools as blogs, social bookmarks, collaborative document authoring, and microblogging. The study was conducted at a large public university in the United States and falls within the broad framework of the interpretive research paradigm in which the case study method was employed. As part of the course requirements, students watched and listened to video resources shared by the instructor and responded to self-reflective questions and comments on blogs and social bookmarks. Additionally, students created personal profiles and "friend" lists, posted status updates, followed activity streams, and subscribed to be notified of other users' actions within the environment. The data corpus consisted of personal interviews and survey responses. The

results revealed the complexities of implementing social networking technologies in online enviroments in which the study participants (a) predominantly found value in peer collaboration and support, yet, (b) limited their participation to course-related and graded activities, exhibiting little use of social networking and sharing.

Summary

Educators are utilizing social media as an instructional medium to blend informal learning into formal learning environments (Brady, et al., 2010; Deng and Yuen, 2010; George, 2011; Junco, et al., 2010; Manan, et al., 2012; McCarthy, 2009; Velestsianos & Navarrete, 2012). Additionally, faculty are using social media to facilitate a participatory culture among students (Brady, et al., 2010; Junco, et al., 2010; Manan, et al., 2012) as well as providing opportunities for self-expression, self-reflection, and social interaction (Deng & Yuen, 2010; McCarthy, 2009; Velestsianos & Navarrete, 2012) in both traditional and distance learning environments.

Social Media Use for Academic Practice—Pros and Cons

There is an ongoing debate regarding the integration of social media in education. Advocates of social media usage point to the benefits of using social media for academic practice while critics are calling for regulations and/or the removal of such online technologies in the classroom. Finding middle ground has become a challenge.

Pros

Proponents argue that contemporary college students have become habituated to a world where social media is the norm; thereby, as an educational tool, social media enriches the learning experience by allowing students and instructors to exchange ideas, foster collaboration and discussion, and engage and interact using such emerging social platforms (Lederer, 2012;

Turkle, 2004). Lederer (2012) outlines several benefits to using social media in education. First, she argues that social media is an effective way to increase student engagement and build communication skills by allowing students to feel more comfortable expressing themselves in a less intimidating environment. Secondly, Lederer believes that social media can improve communication between students and instructors, while the latter can answer students' questions, post homework assignments and lesson plans, send messages and updates, schedule or announce upcoming events, and share Web sites and multimedia content. Finally, Lederger points to students use of social networking sites to find employment by establishing a professional Web presence, posting a resume, and researching potential employers.

Cons

Despite the aforementioned benefits, critics argue that there are serious risks to using socia media in the classroom. Furthermore, educators and instructional designers believe that social media technologies are not always appropriate nor successful vehicles for teaching and learning activities (Waycott, Bennett, Kennedy, Dalgarno, & Gray, 2010).

Lederer (2012) cites the following as reasons to censure the integration of social media for academic practice. First, she suggest that social media can be a distraction. A common complaint among instructors is that tools such as Facebook and Twitter divert students' attention from classroom participation and utilimately are disruptive to the learning process. Secondly, while social networking sites provide ways for students and instructors to connect, Lederer argues that cyberbullying can be used as a weapon for malicious behavior. Finally, Lederer argues that social media discourages face-to-face communication, that is, "while real-time digital stream may create a safe harbor for students who are uncomfortable expressing themselves, students are missing valuable lessons in real-life social skills" (Lederer, 2012, p. 2).

Additional challenges that may arise when using social media in education include workload concerns for faculty and students, lack of trust in peer feedback, ownership isues regarding public and collaborative spaces, and difficulty in adapting publicly available tools (Schroeder, et al., 2010). Another challenge concerns suitability and appropriate integration of social media technologies into curriculum. For successful integration, social media technologies should become a seamless part of the curriculum and not just an additional means of communication (Lester & Perini, 2010). Technology infrastructure also pose challenges for using social media to engage students. Third-party Web-based innovations are a major concern for most colleges and universities because the information is stored outside secure campus servers, yet, an alternative arrangement such as the development of a social networking site may be too costly for most institutions of higher learning (Lester & Perini, 2010).

While the debate continues regarding the pros (socialization, engagement of students, development of a community, collaborative and reflective learning, peer-to-peer support and feedback, employment resource, and information management) and cons (cyberbullying, ownership issues, workload issues, lack of student engagement, lack of trust in peer feedback, and technology infrastructure issues) of using social media for academic practice, no one can argue the influence that social networking has on today's students (Lederer, 2012; Lester & Perini, 2010; Schroeder, et al., 2010; Turkle, 2004).

Conclusion

The growing interest in social media has led educators to examine its use for academic practice. As institutions of higher learning are challenged to enhance collaborative learning and community building amongst students, Minocha (2009) recommends that educators make use of "tools that facilitate collaborative authoring, such as blogs and wikis; applications that enable

sharing of bookmarks, photographs and videos . . . ; social networking platforms such as Facebook, Elgg and Ning; and virtual worlds, such as Second Life that facilitate synchronous collaboration" (p. 248).

The reviewed literature suggests that social media holds promise for academia. As reported throughout the current review, students have diverse beliefs, perceptions and experiences with regard to social media technologies. Many of the studies reported a willingness among students to incorporate social media into their learning experiences (Lenhart, et al., 2010; Liu, 2010; Poellhuber & Anderson, 2011; Westermann, 2011). Likewise, the majority of faculty were supportive of utilizing social media not only to enhance student engagement but also to provide course content in a more active and participatory role (Chen & Bryer, 2012; FSSE, 2010; Tiryakioglu & Erzurum, 2010).

The current review continues the tradition of digital divide scholarship by discussing issues of equality and opportunity for using social media technologies. Several studies presented report a non-significant difference when comparing access and use of social media tools between students of color and White students; however, as new media emerge, questions of who is accessing and using such technologies will remain paramount if we are to be successful in utilizing social media for academic practice.

With respect to the traditional classroom environment, faculty and instructional designers have successfully utilized social media technologies for various types of academic activities that include collaborative learning, inquiry-based learning and reflective learning (Deng & Yuen, 2010; George, 2011; Junco, et al., 2010). Based on students' responses, it is evident that using social media in distance learning environments allowed for increased collaboration, communication, and interaction through blogging, document sharing, networking, tweeting, and

social bookmarking (Brady, et al., 2010; Manan, et al., 2012; McCarthy, 2009; Veletsianos & Navarrete, 2012).

Despite its popularity among students for personal use, there is an ongoing debate concerning the role of social media in education. Advocates point to enhanced student engagement, enriched learning experiences, and increased communications as reasons to incorporate social technologies in the learning environment (Lederer, 2012; Turkle, 2004) while critics cite cyberbullying, faculty and student workloads, and technology infrastructure issues as reasons to censure the concept of social media in education (Lederer, 2012; Waycott, et al., 2010).

The published research on the effectiveness of social media in teaching and learning is limited to the use of discussions, chats, blogs, and wikis; therefore, the need exists for further exploration in determining how other social media platforms can be used for academic practice. The review of literature presented only began to delve below the surface with social media. There are numerous opportunities for researchers and educators alike to continue to build upon the current studies cited in this article in determining the usefulness of social media.

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