Social Media & Communication Outcomes in Higher Ed

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Abstract
The idea that Millennial Generation students are digital natives and those who teach are digital immigrants has produced urgent calls to incorporate social media into higher education. However, this literature review demonstrates that the digital divide lacks empirical support and that extant research about the influence of Facebook and Twitter on communication outcomes often lacks a theoretical base. Nonetheless, faculty should consider integrating social media in their courses as early research suggests that Facebook and Twitter can enhance student perceptions of instructor credibility and immediacy.

Introduction
In "Teaching Generation NeXt: A Pedagogy for Today's Learners," Mark Taylor, Ed.D. asserts that:

> Faculty struggle to effectively teach our traditionally aged students from Generation NeXt. They are different, and different kinds of learners, than anyone higher education has experienced in the past, and there is ample evidence of a growing divide and mismatch between faculty and students in teaching and learning. . . . few schools, beyond making online course management systems available, have truly leveraged students' digital preferences and available online-anytime resources toward learning goals (2010, p. 192).

"Digital natives" or "Millenials" process information and think differently compared with their parents' generation (Prensky, 2001). The idea of a "digital divide" caused by digital natives who have different learning styles has produced urgent callas to implement more online courses and to incorporate social media use in academia (Helvie-Mason, 2011). Researchers in education and educational technology, scholars in economics and management, university advisors, and student affairs professionals promote the integration of social media in university courses and activities to meet the needs of digital natives (Helvie-Mason, 2011; Levine, 2010; Selwyn, 2011; Tay & Allen, 2011).

This literature review seeks to answer the question, "Should we integrate social media into college and university courses?" After a brief description of the social media platforms Facebook and Twitter, two communication-based education outcomes are explored; student

perceptions of instructor credibility and instructor immediacy. The digital divide is analyzed and a synthesis and critique of research concerning instructor credibility and immediacy and their relationship to Facebook and Twitter is presented. Implications for integrating Facebook and Twitter into higher education courses and suggestions for future research are provided in the conclusion.

Characterization and Student Use of Facebook and Twitter
Established in 2004, Facebook was originally created for students at Harvard University but expanded to other university audiences and eventually opened to anyone over the age of 13. In June 2013, Facebook revealed that it had over 1.11 billion monthly active users, and approximately 665 million users are active on the site on a daily basis (Smith, 2013). Facebook is a social media platform utilized by people who want to stay in touch with friends and family, and by organizations that want to market and advertise their products, services, and viewpoints (Facebook Fact Sheet, 2012). Users can create a profile and request to "friend" others who already have profiles to gain access to their status updates. Status updates consist of brief comments that are visible to "friends," as are photos and videos posted for sharing. Research illustrates that whether or not Facebook is purposefully integrated into the university classroom, students are using Facebook in university settings to reflect on the university experience; exchange practical and academic information; display engagement or disengagement; and to banter (Selwyn, 2009).

Twitter is an information network that allows users to share ideas, stories, news, and personal information. Users request to follow other users and in turn, a user's account may be followed by others. "Tweets" are small bursts of information limited to 140 characters. Users may also see photos, videos, and conversations in tweets ("About Twitter," 2013). The approximately 554 million active Twitter users may choose to send and receive tweets on a personal Twitter page, as text messages on cell phones, and as instant messages on a computer ("Twitter Statistics," 2013). People use Twitter to chat, share resources (such as URLs) and to report news; these functions have been replicated when instructors invite students to use Twitter both in and out of the classroom. Specifically, students use tweets to share, collaborate, brainstorm, engage in problem-solving, and create (Dunlap & Lowenthal, 2009).

Perceptions of Instructor Credibility and Immediacy
"Credibility" refers to the degree to which a speaker is perceived as believable (McCroskey, 1992). Specifically, "instructor credibility" is the degree to which students perceive an instructor as credible in terms of her/his competence, trustworthiness, and caring (McCroskey & Teven, 1999). "Competence" relates to the extent to which an instructor is perceived to know what she/he is talking about; "trustworthiness" refers to the degree that an instructor is perceived as honest; and "caring" concerns the extent to which an instructor is perceived to have the best interests of her/his students in mind (Mazer, Murphy & Simonds, 2009). Instructor communication behaviors, both inside and outside of the classroom, have the most influence on the perception of credibility (Obermiller, Rupport & Atwood, 2012). Instructors may attempt to create student perceptions of credibility by engaging in self-disclosure, either face-to-face or online. Outcomes associated with instructor credibility include the perception of greater learning, and increased satisfaction with an instructor and course (Teven & McCroskey, 1997). Perceived instructor credibility is also related to student motivation to learn (Martin, Mottet, &

Chesebro, 1997), student persistence in college (Wheeless, Witt, Maresh, Bryand, & Schrodt, 2011), and enhanced communication between instructor and student (Meyers and Bryant, 2004).

Perceptions of instructor credibility can be explained and predicted in terms of expectancy violations theory (EVT). "Expectancies" refer to behavioral patterns associated with specific individuals that are considered appropriate, desired and/or preferred. For example, students may expect their professors to be knowledgeable about a particular topic; honest when answering questions; and caring when discussing grades. Expectancy violations occur when individuals deviate from appropriate behavior to the extent that the deviation is noticeable to others. Perceived expectancy violations may occur if a professor appears not to know about a particular topic, doesn't answer questions honestly, or seems not to care about students' grades. EVT also explains that communicators possess characteristics that are valenced. The "communicator reward level" suggests that we place communicators on a continuum that ranges from positive to negative, depending on their reward level. Communicators who have a high reward level present us with more positively valued messages than negatively valued messages. Interestingly, when expectancy violations are associated with rewarding communicators, we tend to "forgive" them and the violation more so than violations associated with less rewarding communicators (Burgoon, Buller, & Woodall, 1996). EVT also suggests that behaviors are positively and negatively valenced and that the "violation valence" occurs when observers interpret the behavior as either positive or negative. For example, if a well-liked and highly regarded professor meets a student's expectations by publically commending an oral report, the student's expectations are met. If the instructor criticizes the oral report and embarrasses the student, the instructor has committed a negative violation. If the instructor informs the class that the student's presentation is the best oral report the professor has ever heard, the instructor has committed a positive violation. Both high and low reward communicators can commit positive or negative expectancy violations, and EVT predicts that positive and negative violations committed by high reward communicators will result in more positive interpretations of the behavior. However, negative evaluations of the behavior will result when low reward communicators commit positive and negative expectancy violations (Dunbar & Segrin, 2012). Therefore, high reward professors may be able to self-disclose more and various types of information to enhance perceptions of credibility compared to low reward professors.

"Immediacy" refers to the physical or psychological closeness between people involved in interaction. Implicit communication theory provides the foundation for the concept of immediacy. Implicit communication theory explains that messages are communicated explicitly and implicitly. While explicit messages are verbal and convey content, implicit messages are nonverbal and convey emotion. However, immediacy refers to both verbal and nonverbal communication (Mehrabian, 1981; Velez & Cano, 2008). Research illustrates that immediacy behaviors are associated with higher instructor evaluations by students and increased perceptions of learning (Christophel, 1990). Immediacy behaviors are also associated with greater perceptions of liking a course and an instructor and student willingness to participate in class discussions and out-of-class communication (Jaasma & Koper, 1999; Witt & Kerssen-Griep, 2011). Verbal immediacy behaviors that can create an immediate classroom environment include using personal examples, addressing students by their first names, and using humor (Gorham, 1988). Students whose instructors use nonverbal immediacy behaviors such as gesturing, smiling, and speaking with vocal variation perceive their instructors as having a high

degree of credibility (Thweatt & McCroskey, 1998). Immediacy may also be communicated in online contexts. Mediated immediacy refers to the perceptions of psychological closeness influenced by communicative cues in mediated channels (O'Sullivan, Hunt, & Lippert, 2004). Examples of communicative cues that affect perceptions of instructor immediacy include punctuation, language, and font use. Mediated immediacy is additionally affected by self-disclosure on personal webpages (O'Sullivan et al., 2004).

Synthesis: Facebook, Twitter, and Perceptions of Instructor Credibility and Immediacy
Research about the relationship between social media and student perceptions of instructor credibility is limited. Mazer, Murphy, and Simonds (2009) conducted a small-scale study that examined the influence of self-disclosure via Facebook and perceptions of instructor credibility. Self-disclosure occurred in three experimental groups (high, medium, and low self-disclosure) in terms of photos, biographical information, and posts on "The Wall." The researchers found that students report higher levels of instructor credibility when instructors engage in a high amount of self-disclosure on Facebook compared with a low level of self-disclosure. The authors therefore suggest that instructors can "strategically reveal photographs and personal information that present them as competent, trustworthy, and caring instructors" (Mazer et al. 2009, p. 180).

Instructor self-disclosure on Facebook is not without its risks, however. Although Mazer, Murphy, and Simonds (2007) contend that the amount of self-disclosure on Facebook does not affect student perceptions about an instructor's appropriate use of Facebook, the authors suggest that instructors "decide what information they want to reveal to their students in an effort to create a comfortable classroom environment that fosters student learning. At the same time, teachers must also determine what information to conceal from their students in order to avoid the negative ramifications of such communication and to protect their credibility in the classroom" (Mazer et al, 2007, p. 4).

Teclehaimanot and Hickman (2011) studied which specific Facebook instructor behaviors are deemed appropriate and inappropriate by students and found that the least appropriate behavior is sending pokes. In contrast to the results found by Mazer et al. (2009), Teclehaimanot and Hickman's (2011) research reveals that students are somewhat uncomfortable when instructors comment on their posts (overall, instructor comments on student posts border between appropriate and inappropriate). This finding also supports the warning that instructors should be strategic when deciding to share personal information with students on Facebook to create the perception of credibility.

Current research about the relationship between Twitter and student perceptions of instructor credibility is limited to one study. As previously mentioned, instructors may attempt to create perceptions of credibility by engaging in self-disclosure with students, either face-to-face or online. Kirsten Johnson posed three research questions in her study about Twitter and student perceptions of instructor credibility. These questions concerned whether disclosing social information, scholarly information, or a combination of social and scholarly information enhances the perceived credibility of instructors (Johnson, 2011). Johnson found that student respondents who saw social tweets only rated a professor as more credible than student respondents who saw the scholarly tweets only. The author suggests these results may reflect that "caring" rather than "competence" is the most important component of perceived instructor

credibility on social networking sites (Johnson, 2011). Johnson (2011) concludes that "the nature of Twitter with its short updates, options to share pictures, and to easily post links may make it the ideal place to share information and carry on conversations with students outside of class" (p. 34).

Similar to studies of student perceptions of instructor credibility, research about the relationship between social media and perceptions of instructor immediacy is limited In their study of Facebook and computer-mediated self-disclosure, Mazer, et al. (2007) found that instructors who engage in a high degree of self-disclosure on Facebook by posting photos, biographical information, and placing posts on "The Wall" are perceived by students as more immediate (in regards to a positive classroom climate) than instructors who engage in a low degree of self-disclosure. Respondents' open-ended comments about Facebook sites which are high in self-disclosure emphasized instructor strengths. Such comments include "She seemed like she would relate well to her students and make the classroom atmosphere enjoyable;" "I feel she is genuine and honest;" and "I think that as a teacher I would get along with her because of our common characteristics" (Mazer et al, 2007, p. 11).

J.A. McArthur (2011) researched student perceptions of instructor immediacy related to the use of Twitter. Perceptions of instructor immediacy were measured using a modified version of the Nonverbal Immediacy in College Classroom Instruction (NICCI) scale. The NICCI scale has been used in prior research to predict instructor immediacy in terms of student perceptions of in-class, nonverbal behaviors. Students in McArthur's study were also asked to answer questions about the appropriateness of Twitter as a way to contact the instructor and classmates. McArthur (2011) found perceptions of instructor immediacy are significantly and positively correlated with the level and frequency of student-instructor interaction on Twitter, as well as positively correlated with student perceptions of the appropriateness of Twitter as a classroom communication tool.

An interesting finding in McArthur's research concerns the NICCI, which measures student perceptions of instructor nonverbal behaviors in the classroom. MacArthur determined that:

> A significant correlation between instructor Twitter use and immediacy indicates that students perceive that the instructor's demonstration of these non-verbal actions in the classroom is increased if the instructor interacts digitally with them on Twitter. This finding is compelling because the scale measures solely in-class, non-verbal behaviors. Fully understanding the impact of technology on non-verbal communication, in relation to the classroom as well as other forums, can help educators harness social media tools for maximum instructional benefit (2011, p. 14).

McArthur concludes that while out-of-class instructor availability influences students to perceive instructor behaviors more positively, most out-of-class opportunities to interact (such as meeting during office hours, using email, etc.) are one-to-one avenues of communication. Twitter, on the other hand, enables instructors to engage with and create learning opportunities for many students at once.

Critique
Calls to integrate social media into higher education courses are often based on the idea of the digital divide; an idea that is more myth than reality. In addition, extant research about the

influence of Facebook and Twitter on communication-based educational outcomes neglects differences among members of the Millennial Generation. Such research may also lack a theoretical base and suffer from methodological problems.

The idea of a binary divide between digital natives and digital immigrants has been criticized for the lack of empirical support and the failure to consider differences among the members of the Millennial Generation. For example, in their review of evidence about digital natives, Bennett, Maton, and Kervin (2008) suggest that seminal literature about digital natives is "supported by anecdotes and appeals to common-sense beliefs" and that "this literature has been referenced, often uncritically, in a host of later publications" (p. 777). Other academics contend that claims about digital natives should be empirically challenged, such as the neuropsychological assumption that Millennials possess a different learning style compared with previous generations; a claim frequently used in arguments for pedagogical change (Selwyn, 2009).

Educational researchers also maintain that we should consider differences concerning the use of technology and learning styles among Millennial students. Helsper and Eynon (2010) discovered that breadth of use, experience, self-efficacy and education are just as important, if not more important, than age in explaining how people become digital natives (p. 504). Similarly, a study conducted by Bennett and Maton (2010) found that "young people grow up with different histories of access to technology and therefore different opportunities" (p. 323). Similarly, Helsper and Enyon (2010) site gender, education, experience, and breadth of use as important variables affecting how students use technology. Furthermore, Selwyn (2011) asserts that digital inequalities are related to demographic factors such as social class, race, socio-economic status, age, gender and geography.

Not only are calls to incorporate social media into higher education based on the myth of the digital divide, research about social media and educational outcomes often lacks a theoretical base. A specific example of the need for theoretical understanding concerns findings about the appropriateness of instructor posts on Facebook. For example, Mazer et al. (2009) suggest that instructors post messages from family and friends and opinions about various topics on Facebook. At the same time, Mazer et al. (2007; 2009) advocate strategic self-disclosure and the use of caution in terms of posting photos, personal information, and quotes on Facebook. The researchers write that "teachers may violate student expectations of proper behaviors and run the risk of harming their credibility if they utilize Facebook" (Mazer et al., 2007, p. 3). Mazer et al. (2007) also found that 33 percent of their respondents report that instructor use of Facebook is "somewhat inappropriate" while 35 percent of respondents report that instructor use of Facebook is "somewhat appropriate." No theoretical explanation is offered regarding which Facebook behaviors students consider appropriate or inappropriate. Similarly, Teclehaimanot and Hickman (2011) conclude that "what the teacher might intend as a way of connecting with students (e.g., commenting on their status and photos), might unintentionally cause the student to withdraw from the teacher as the student found the behavior inappropriate" (p. 26). While the researchers warn that instructors will most likely find variability among their students regarding the appropriateness of Facebook behaviors, they offer no theoretic explanation regarding why certain behaviors may be perceived as appropriate or inappropriate or why student perceptions will be variable.

Findings such as these may be explained by more theoretically-based studies of the communication outcomes associated with the integration of social media in higher education. McEwen (2011) contends that "Investigations that look beyond the effects of Facebook use and begin to explore the nuances and theoretical explanations of these effects are needed." Recall that expectancy violations theory (EVT) refers to behavioral patterns associated with specific individuals that are considered appropriate, desired and/or preferred. When expectancy violations are associated with rewarding communicators, we tend to "forgive" them and the violation more so than violations associated with less rewarding communicators. While Mazer et al. (2007) and Teclehaimanot and Hickman (2011) don't explain their findings in terms of EVT, it may be that those professors who are perceived as "high reward" are able to post more and certain types of personal information on Facebook without experiencing a decrease in student perceptions of their appropriateness or credibility. This means that instructors may want to assess their "reward value" and determine whether their disclosures will be perceived as a positive or negative expectancy violation prior to posting on Facebook.

Conclusion

Through an extensive review of the literature, this manuscript reveals the potential of integrating social media into academia. Faculty should seriously consider integrating social media into higher education courses because limited research shows that Facebook and Twitter may promote student perceptions of instructor credibility and increase student perceptions of instructor immediacy. However, Millennial Generation students cannot automatically be assumed to be digital natives. Therefore, in order to successfully incorporate Facebook and Twitter into university and college courses, students must have access; be self-disciplined, motivated, and willing to commit time to online activity; work collaboratively; and believe learning can happen anywhere at any time (Palloff & Pratt, 2003). Moreover, extant research about the communication-based outcomes associated with the integration of Facebook and Twitter in higher education is in its infancy. The results of such research are problematic in that studies may lack a theoretical base; therefore, future research about the association between social media and communication-based educational outcomes should be grounded in theory. Overall, through experience, access and willingness to master and integrate social media platforms such as Facebook and Twitter, faculty have the potential to create connections, build community, and enhance perceptions of instructor credibility and immediacy both in and out of the classroom.

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