Deviating From the Traditional Instructional Tools: Integrating Twitter in a Sociology of Deviance Course

S'éloigner des outils pédagogiques traditionnels : intégrer Twitter dans un cours sur la sociologie de la deviance

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Abstract

As the use of social media in post-secondary education expands, so does the research literature examining its effectiveness in engaging students. Studies have examined the use of Twitter as an assessment and engagement tool, and since this is a broad and growing research area, better understanding whether Twitter can promote these outcomes in an upper-level university course is valuable. This paper explores these themes based on a student survey (N=37) conducted in a Sociology Deviance course. It also reviews how students responded to the use of Twitter as a "community-classroom" engagement and assessment tool. Findings reveal that Twitter did contribute to some students' sense of community. We offer suggestions for how instructors can successfully integrate Twitter activities into their course assessment to make them more engaging and to improve connectedness.

Résumé

L'utilisation des médias sociaux dans l'éducation postsecondaire prend de l'ampleur, entraînant l'augmentation de la documentation de recherche qui examine leur efficacité à motiver les élèves. Des études se sont penchées sur l'utilisation de Twitter comme outil d'évaluation et de participation. Comme il s'agit d'un domaine de recherche vaste et en croissance, il est important de mieux comprendre si Twitter peut favoriser ces résultats dans le cadre d'un cours universitaire de haut niveau. Cet article explore ces thèmes en s'appuyant sur un sondage réalisé auprès des étudiants (N=37) dans un cours de sociologie de la déviance. Il examine également comment les étudiants ont réagi à l'usage de Twitter comme outil de participation à une « classe-collectivité » et comme outil d'évaluation. Les conclusions révèlent que Twitter a contribué au sentiment d'appartenance à la collectivité de certains étudiants. Nous offrons des suggestions sur

la façon dont les instructeurs peuvent intégrer avec succès des activités liées à Twitter dans leurs évaluations de cours afin de rendre ceux-ci plus motivants et d'améliorer la connectivité.

Introduction

Social media, and social networking (SN) tools particularly, have become an important part of everyday life as a means of communication, expression, and importantly, learning. Twitter is among the most commonly used social networking platforms in Canada. Since its emergence in mid-2006, Twitter's user base has continued to grow. Statistics Canada (2013) data revealed that 67% of Internet users in Canada used social networking sites between 2010 and 2012. A more recent survey found that 42% of Canadians with an online presence have a Twitter account specifically, with the greatest use being among youth ages 18 to 24 (Gruzd, Jacobson, Mai, & Dubois, 2018). Approximately 64% of university students in Newfoundland in the 2015/16 academic year were 24 years of age or younger; at Memorial University of Newfoundland (Memorial), St. John's campus, the vast majority (91%) of undergraduate students in 2016 were 30 years old or younger (Memorial University of Newfoundland, 2017; Statistics Canada, 2017). Given these similar age distributions, university instructors have begun looking at integrating these SN tools into their courses to enhance the learning experience.

Social media platforms provide diverse opportunities for users to microblog, which involves short, quick communication and information sharing (Fox & Varadarajan, 2011); in relation to Twitter, users must follow the format of limiting posts, referred to as "tweets," to 280-characters or less (this has doubled from the previous 140-character limit). These posts can be shared between users, by means of public posts/comments, private direst messages, and re-posts, as examples. Unlike the static content of Web 1.0, Web 2.0, which includes websites like Twitter, is an interactive, continuous stream of communication among users who control the content (Kaplan & Haenlein, 2010). As a readily accessible microblogging tool, Twitter allows for users to quickly post several messages per day (Java, Song, Finin, & Tseng, 2007).

There is, however, ongoing debate related to the benefit of integrating microblogging tools into the post-secondary environment regarding whether social media can indeed provide an enhanced method to promote learning, assess performance, and encourage communication with, and discussion among, university students (Friesen & Lowe, 2011; Madge, Meek, Wellens, & Hooley, 2009; Tang & Hew, 2017). To further explore the themes of Twitter's capacity to enhance students' online communication and engagement, in the present study, students enrolled in an upper-level sociology course were surveyed to determine their use of Twitter related to the respective course material and assignments, the perceived benefits and limitations of using Twitter in the course, and Twitter's contribution to enhancing the sense of community in the course. Based on the popularity of microblogging platforms and their use in other university courses, it was anticipated that students would support Twitter's use as a tool to enhance sense of community, but that the character limits set by Twitter would hinder their participation.

Literature Review

Twitter's Impact on Engagement and Academic Outcomes

Advances in social media have broadened learning environments; these platforms promote social learning as learners co-construct knowledge in real-world settings (Hsu & Ching, 2012), enhancing active participation (Harrison & Thomas, 2009), thereby allowing students to participate in the learning process beyond the borders of the physical classroom. Interaction and active participation in learning activities positively impacts knowledge acquisition (Woo & Reeves, 2008). Bista (2014) notes that today's learners differ from those in past decades in that they are "socially, culturally, and technologically different […] because of the rapid digital innovation in higher education" (p. 196). Some university instructors have responded to the rapidly evolving Web 2.0 culture by incorporating social media services, such as Twitter, into their courses. This may be done as a means of connecting students to one another and to the instructors, mobilizing greater engagement of learners from diverse backgrounds and disciplines, supporting more frequent and informal communication, assessing students' comprehension of material, integrating personal interpretation of course content through active learning, assigning and gathering assessments, and providing more timely feedback, or a combination of these reasons (Wakefield, Warren, & Alsobrook, 2011; Woo & Reeves, 2008). In comparison to other forms of online learning (e.g., learning management systems), social media is a valuable tool for several reasons. The majority of Internet users already have a social media account and these platforms are utilized at a high frequency, especially among younger demographics. Social media websites allow for a rapid interaction through which information can be presented, reflected upon, and debated. As well, unlike closed discussion groups, Twitter and other social media forums reach a much wider audience and afford students the opportunity to interact with diverse online users outside the classroom and beyond their class peers and instructors (Stewart, 2015). Twitter specifically is beneficial to students' development of literacies ranging from understanding content and how to use social media tools generally and effectively, and how to categorize information and ideas (e.g., using relevant categories identified using hashtags symbolized as "#"), to how to write in a succinct, yet meaningful way, and how to show consideration for alternative perspectives and interpretations from those with similar interests in, and external to, the course (Mao, 2014; Stewart, 2015).

While studies on how Twitter can benefit students in higher learning contexts still represent a relatively small body of educational literature (Bista, 2014), research is growing. A narrative review from Tang and Hew (2017) presented six ways in which Twitter has been used in educational settings revealing that the most common uses of Twitter have been for communication and assessment purposes. In other studies, researchers have demonstrated that (a) students in an English as a Foreign Language learning setting became proficient in Twitter's use without having prior exposure to it, and (b) almost three-quarters (i.e., 70%) of students revealed that Twitter assisted in their language acquisition (Borau, Ullrich, Feng, & Shen, 2009). As Dunlap and Lowenthal (2009) highlighted, Twitter provides a mechanism for improved social presence, timely communication and responses, concise writing, informal learning, and writing for an audience.

Junco, Heiberger, and Loken (2011) found that students in courses that relied on Twitter for educational activities (e.g., discussion, reminders) had significantly higher scores on a student

engagement measurement tool and higher semester grade point averages than students who were in the non-Twitter section. This was attributed to instructor-student contact, active learning, swift feedback, and time-on-task maximization that were facilitated by this social media platform.

Using mixed methodology, Junco, Elavsky, and Heiberger (2013) published a later article, relying on Chickering and Gamson's (1987) seven principles for good practice in undergraduate education. This framework recommends: (a) student-faculty contact, (b) cooperation among students, (c) active learning, (d) prompt feedback, (e) emphasizing time on task, (f) communicating high expectations, and (g) respecting diversity. From this they asserted that Twitter's use should: (a) be based on a theory-driven pedagogical model, (b) incorporate a high degree of instructor Twitter activity, (c) be mandated for student use, and (d) be combined with a relaxed instructor attitude (Junco et al., 2013). These conditions in particular were found to lead to increased engagement and higher grades when compared to students for which these conditions were not implemented.

An earlier Memorial-based study (Rohr & Costello, 2015; Rohr, Costello, & Hawkins, 2015) revealed that Twitter activities – which required students, over the course of one week, to tweet about a course-related topic assigned by the instructor using the class hashtag – effectively encouraged engagement and community in online classes. Appropriately designed Twitter activities, such as those that require tweets on a specific course theme and are attached to a designated course hashtag, may encourage students to think critically by challenging assumptions while gaining exposure to authentic activities they may find in their daily life. Rohr, et al. (2015) outline course learning design considerations for utilizing Twitter for coursework, including course suitability, linkages to other class activities or content, and clear communication on its use.

Studies have also emphasized Twitter's role in delivering a more learner-centred approach in which all students have an opportunity to be more interactive with (and less intimidated by) each other and the instructor (Chen & Chen, 2012; Menkhoff, Chay, Bengtsson, Woodard, & Gan, 2015; Voorn & Kommers, 2013). This interaction can occur outside the traditional time and space boundaries set through a classroom. It can be surmised that alternative avenues of interaction foster a greater sense of community among students, which has been demonstrated to lead to enhanced academic motivation and satisfaction (Battistich, Solomon, Kim, Watson, & Schaps, 1995). Relatedly, it was found that limited social support can lead to poor academic performance and even withdrawing from university (McGrath, Gutierrez, & Valadez, 2000).

Research in this area differentiates various types of engagement that social media, such as Twitter, can foster in the university environment, both on campus and online. Two important types of engagement that influence student learning and related outcomes are academic engagement and peer engagement, referring to the "time and effort students invest in educational activities, e.g., the academic experience, faculty and peer interactions, and co-curricular activities (Kuh, 2009). Research has demonstrated mixed findings on social media use and outcomes, such as improving grades, promoting relationship building and fostering a sense of community, the latter of which can be particularly important in online classes as well as larger courses with students from multiple, highly diverse disciplines (Junco et al., 2013). Again, future research on this is needed.

As above-mentioned, Twitter's use in educational settings should be guided by theoretical foundations and engender motivations for why and how its use is beneficial. Chickering and Gamson's (1987) seven principles provide a suitable framework. Another theory, the social constructivist theory of learning, stresses social interaction within a community of learners to build new relationships and co-create knowledge. It promotes active student engagement, group work, experiential learning, social learning, problem-based learning, and self-directed learning (Bates, 2015; Harasim, 2012). Combined, these theories provide a basis for course design, using Twitter, which may be suitable for higher education.

Research on Twitter's Use in Sociology Courses

Researchers have evaluated Twitter's use in several university programs including health care (Smith & Lambert, 2014), business, management, computer systems (Evans, 2014; Menkhoff, Chay, Bengtsson, Woodward, & Gan, 2015), human kinetics and recreation (Rohr & Costello, 2015; Rohr et al., 2015), the hard sciences (Freeman et al., 2014), and social work (Hitchcock & Young, 2016). These studies have illustrated the positive impact this social media service can have on student-student and student-instructor relationships, as well as student engagement and learning.

One study testing Twitter's implementation in social science courses and its impact on engagement using a quasi-experimental design demonstrated no significant differences between the experimental and control groups. Welch and Bonnan-White (2012) studied students enrolled in four introductory sociology and anthropology face-to-face, lecture-based courses. The control group (i.e., non-Twitter use) comprised students enrolled in two sections of Introduction to Sociology as well as those in one Cultural Anthropology section. The experimental (i.e., Twitter use) group was derived from a second section of Cultural Anthropology. Students in all four sections completed "seven low-stakes writing assignments" throughout the semester (Welch & Bonnan-White, 2012, p. 333). The experimental group tweeted comments and questions during and outside of lectures. The instructors actively tweeted course-related information.

The instructors administered a questionnaire about perceptions of engagement to assess students' experiences in the courses. The experimental group participants also received questions regarding the use of Twitter. The researchers concluded that students enrolled in the Twitter sections did not report as high academic engagement as students in the control (non-Twitter) group; this was supported by student outcomes linked to classroom engagement and enjoyment linked to Twitter use (Welch & Bonnan-White, 2012). The researchers did find a significant association between students' perceived enjoyment of using Twitter and increased academic, peer, intellectual, and beyond-class engagement. Welch and Bonnan-White (2012) attributed their findings to students' inexperience and unfamiliarity using Twitter, construct measurement issues, as well as the absence of important measures (e.g., students' academic level and experience).

In light of the reviewed literature, our study attempted to build on the Twitter research by examining social sciences' students' use of the social media platforms in two sections of the same course delivered in the same semester. One instructor taught both sections of the course and used identical primary course materials and assessment approaches. The only difference

between the course offerings was that one was delivered online and the other on campus. Two research questions guided this research:

1. What kind of a Twitter presence do post-secondary students in a social science course have?
2. Does students' required use of Twitter foster course and community connectedness based on students' perceptions of these concepts?

Drawing from the data indicating that the majority of individuals who are online have a Twitter account, along with existing research, we anticipated that the majority of SOCI 3290 students would have a Twitter account and that a large proportion of students would perceive Twitter as a tool to enhance feelings of engagement and connectedness.

Methodology

Sample

The present research was conducted collaboratively between the Centre for Innovation in Teaching and Learning (CITL) and an instructor in the Department of Sociology at Memorial University of Newfoundland. Memorial is a comprehensive, mid-sized university and is the only university in Newfoundland and Labrador. In fall 2016, approximately 13,633 students were enrolled in full-time and part-time undergraduate programs (Memorial University of Newfoundland, 2017). The sociology program is one of the largest programs in the Faculty of Humanities and Social Sciences and offers an upper level course called Deviance (SOCI 3290). The sample for this study was derived from two sections of SOCI 3290 offered in fall 2016.

Drawing on one of our study's author's experience previously implementing and assessing Twitter-based activities in an online course at Memorial (Rohr & Costello, 2015; Rohr et al., 2015), this study replicated many of the same approaches. For example, a Twitter feed widget was added to each of the courses' online learning environments, Desire2Learn (D2L – now called Brightspace), to facilitate two small "Twitter events" that comprised part of the students' assessment of the course. A second widget aggregated students' tweets based on the specified Twitter event hashtag and matching tweets to the student's D2L account. This feature significantly reduced assessment time and negated the need for participants to "follow" tweeters or search for posts or tweeters' handles. Attention to course design and Twitter's integration can improve the effectiveness of these types of activities by enhancing students' and instructors' online social presence, and consequently learning (Rohr & Costello, 2015; Rohr et al., 2015).

A total of 37 out of 58 undergraduate students (i.e., 63.8%) that were enrolled in these two course sections completed the online survey at the end of the semester, answering questions on their Twitter experience.

Twitter-Based Course Assessment – The Twitter Events

At the beginning of the fall 2016 semester, students in two sections of SOCI 3290 were directed to create a Twitter account. This was a mandatory requirement of the course, as it comprised part of the students' evaluation; no students contacted the instructor to request exemption from this evaluation. The course instructor (and one of this paper's authors) indicated to students that they could use an already existing account, create a new account, or create a new

account specifically for the course (to respect privacy). Students used their complete name or provided the instructor with an alternative Twitter name, so that their tweets were readily identifiable. The students were also notified that the instructor would regularly tweet relevant items throughout the semester, as suggested by Junco et al. (2013), that (a) could be used as models for their forthcoming Twitter events and assessments, (b) would be incorporated as part of course activities and discussion, and (c) could inspire potential term paper topic ideas.

Students were required to participate in two Twitter events at two times during the 13-week semester, weeks eight and eleven. The Twitter events, which comprised part of the course evaluation, directed students to locate and tweet about online news stories, connecting the issues to themes examined in the course, for example, types and theories of deviance/crime. Students were instructed to ensure their accounts were public and to use the hashtag #SOCI3290F16 to obtain a mark. They were not required to respond to or repost any other classmates' tweets. Each of these participatory assessment activities was worth 5% of the final grade in the course and students were directed to tweet only one post per Twitter event using the assigned hashtag – in essence, respect the former 140-character limit set by Twitter. Students were given one week to complete each Twitter event. At the end of each Twitter event, the instructor marked students' tweets based on whether the student: (a) tweeted; (b) properly followed the assignment guidelines; and (c) effectively applied course material. All but three students participated in the Twitter events.

Twitter Use Survey and Analytical Strategy

To assess SOCI 3290 students' use of Twitter as a communication, course engagement, and assessment tool, the researchers administered a voluntary, anonymous 28-question (27 of which were closed-ended questions) survey via D2L. The questions included whether students had an account and the details of their account(s), students' frequency and type of Twitter use, and their perceptions of closeness to classmates and connectedness to the course as a result of using Twitter. The questions were formatted as categorical and ordinal measures. The survey was made available to students during the final week of classes; the instructor informed students once the survey became available and students could complete it at any time during the one week period. Ethics approval was not needed as we are using secondary anonymized data that was drawn from part of a class evaluation. The tweets themselves were not part of the evaluation of Twitter as an instructional tool.

To answer our research questions, we entered the survey question responses of interest (i.e., around Twitter use and course/community engagement) into SPSS 24 and examined descriptive statistics.

Findings

The results obtained from our survey were related to students' use of Twitter; perceptions of course engagement and sense of community. Each of these areas is presented in the subsequent sections.

Twitter Use

The prior Twitter use results are presented in Table 1. Approximately 73% of students surveyed had a Twitter account prior to taking this course, yet a much smaller proportion actually reported using it regularly for personal use (21.6%) or personal and educational purposes (10.8%). Despite efforts to ensure students' privacy outside the course context, slightly more than half (51.4%) of students did not create a separate Twitter account for university or course-specific use.

Table 1

Students' Twitter Use, Generally (N=37)

Measures	%
Twitter account prior (Yes)	73.0%
Previous use	
Regularly, personal	21.6%
Regularly, personal and other courses	10.8%
Infrequently	40.5%
None/no account	24.3%
Separate university account	
Yes	24.3%
No	51.4%
No account prior	24.3%
Twitter use in other courses	
0	67.6%
1	16.2%
2	10.8%
3+	5.4%
Frequency of use, generally	
Once	5.4%
Twice	21.6%
Monthly	29.7%
Weekly	18.9%
Daily	21.6%

Table 2

Students' Twitter Use, in SOCI 3290 (N=37)

Measures	%
Frequency of use for course	
Once	2.7%
Twice	64.9%
Monthly	13.5%
Weekly	18.9%
Daily	0.0%
Completed Twitter Events	
1	5.4%
2 (all)	94.6%
Retweeted classmates' posts	5.4%
Retweeted instructor's posts	8.1%
Tweeted using #SOCI3290F16 outside course evaluations	70.3%

Table 2 presents use-related findings specific to SOCI 3290. All students but two completed both assigned assessment activities. The majority used the assigned course hashtag (#SOCI3290F16) more than when required for the course assessment activities (70.3%). The majority of students at 89% indicated that the Twitter events were a straightforward method to apply course material.

Course Engagement

When examining students' perceptions of Twitter's helpfulness as a forum for learning (see Table 3), the measures that were rated as most helpful among students were: (a) engagement with material external to course, (b) application of course material to real-life events, and (c) providing an alternative to the traditional university setting (all 59.4%).

Table 3

Students' Perceptions of Twitter's Helpfulness (N=37)

Measures	%
Engagement with material external to course	59.4%
Application of real-life events to course	59.4%
Alternative to traditional university setting, generally	59.4%
Alternative to lecture or reading course material	51.3%
Alternative to group activities	45.9%
Opportunity to see other students' interests	43.2%
Opportunity to participate outside of speaking in class	40.5%

In addition to Twitter use generally, students were asked about the integration of Twitter in course assessment activities. These results are illustrated in Table 4. A large proportion of participants viewed the assigned Twitter activities as less work than the in-class assignments. In comparison to other online course discussion forums (e.g., group discussions), slightly more than three-quarters of students indicated "liking [Twitter events] better."

Table 4

Students' Perceptions of Twitter's Assignments (N=37)

Measures	%
Comparison to in-class assignments	
More work	2.7%
The same level of work	29.7%
Less work	62.2%
I do not know	5.4%
Comparison to other online course discussion forums	
Like them better	75.7%
Like them about th same	16.2%
Like them less	5.4%
Never used other online forums	2.7%
Straightforward application of course material	
Strongly agree/Agree	89.1%
Strongly disagree/Disagree	8.1%
Enhanced understanding of course material	
Strongly agree/Agree	83.8%
Disagree	16.2%
Reasonable effort required	
Strongly agree/Agree	86.4%
Strongly disagree/Disagree	13.5%

Community Connectedness

Based on the results outlined in Table 5, Twitter can foster a sense of course belonging or community for some students; 10.8% of students felt really connected, while 35.1% connected to a few individuals, and 24.3% noted not really connecting with anyone as a result of Twitter's use in the course. More pronounced however, 29.7% of students indicated Twitter's use was a means to an end (i.e., grade); they did not seek or note any connection to classmates. In comparison to other online courses, 70.4% of students indicated feeling more or at least the same level of connectedness in SOCI 3290 as in other courses, yet only 29.7% felt Twitter specifically brought them closer to their classmates.

Table 5

Students' Perceptions of Twitter's Contributions to Community/Belonging (N=37)

Measures	%
Sense of community belonging in SOCI 3290	
I felt really connected	10.8%
I connected with a few individuals	35.1%
I did not really connect with anyone	24.3%
It was a means to an end	29.7%
Sense of community belonging compared to other online courses	
I felt more connected	37.8%
I felt the same degree of connectedness	32.4%
I felt less connected	5.4%
Not applicable	21.6%
Increased closeness to classmates (Yes)	29.7%

Future Twitter Use

Slightly more than three-quarters of SOCI 3290 students indicated their desire to use Twitter as an assessment tool in future courses as course activities (75.6%) or course evaluations (78.3%). Its integration, however, did not appear to promote an increased use of the social networking service, outside of required coursework, as approximately half of the surveyed students reported expecting to use the service the same amount as they did prior to the course (which for some students would mean not at all). Results relating to students' future Twitter use are outlined in Table 6

Table 6

Students' Future Twitter Use (N=37)

Measures	%
I wish more classes would integrate Twitter into course activities (Agree)	75.6%
I wish more classes would integrate Twitter into course evaluations (Agree)	78.3%
I hope I do not have to use Twitter in another course (Agree)	27.0%
Future use after SOCI 3290	
I expect to use it more than before the course	24.3%
I expect to use it about the same amount	51.4%
I expect to use it only if required for another course, not for personal use	24.3%

Discussion

This research revealed several findings related to the use of Twitter as an evaluation and connectedness-enhancement tool in a postsecondary learning environment. The findings are discussed here in greater detail, focusing on students' use of Twitter, the workload associated

with Twitter activities, Twitter-related challenges, and recommendations for incorporating Twitter in a learning environment.

Use of Twitter

Despite the large percentage of students indicating they had a Twitter account prior to the course, and the absence of evidence of "competence frustration" found in previous research (Adams, Raes, Montrieux, & Schellens, 2018), the small proportion of students indicating regular use demonstrates that Twitter is not a popular social media tool for university students.

This was a revealing finding, as the instructor viewed Twitter as a novel approach to connect with, and engage, students. Still, most students preferred Twitter activities to other forms of course evaluation. Prior to selecting technology or social media for pedagogy, it is advisable that instructors and distance learning centres assess the online technical behaviours of their students to find approaches that align with one another. Watts (2017) suggested that Snapchat and Instagram are used more frequently, for personal use, among younger demographics than Facebook or Twitter. Thus, while students may participate in, and even enjoy, Twitter activities, they may identify more with alternative social media tools.

Interestingly, a small majority of students enrolled in the course did not create a separate Twitter account for any university or course-specific use. Almost three-quarters of students had an account prior to the course and may have believed it to be more straightforward to maintain one account. This raised the question of whether students were in fact mindful of their tweet content day-to-day or the potential need to protect what they post to different audiences (Rosenberg & Egbert, 2011). It may not have been of concern since few students surveyed reported regular Twitter use. Also, in one course section, several students were police cadets undergoing training, thus, they were incredibly attuned to their professional and public images. Police agencies recognize the significant influence of social media, and many people wishing to pursue this profession today are aware that "off-duty lives are vulnerable to on-duty assessments" (Goldsmith, 2015, p. 259). This may have resulted decreased in Twitter use prior to beginning their studies and/or engagement in "impression management," including being less likely to have a (public) online presence, particularly one that is not acceptable for members of the public, family, friends, and acquaintances. Previously cited research has further shown that university students have more strangers "following" them on Twitter, compared to other social media (e.g., Facebook), which can lead to greater personal monitoring of posts and "try[ing] not to post things that could hurt [them] in the future" (Sigona, 2015, p. 137); this supports the appreciation for and need to "impression manage."

Workload

The commonly reported view that Twitter was less work than the other smaller, weekly course assignments was interesting given students were required to seek information on their own for the Twitter activity, whereas they were provided material in the class/online discussion-based activities. While the time dedicated to each in-class discussion assignment may have appeared greater, the effort required was intended to be moderately less. It would be valuable to unpack this in future student surveys. Increased instructor workload associated with Twitter was

not perceptible in our study, as Tang and Hew (2017) discussed. Instead, our findings support Twitter-based evaluations as a straightforward mechanism for evaluating students.

As previously mentioned, Twitter had a 140-character limit at the time of our study. This meant that students had to present their ideas clearly and concisely (Dunlap & Lowenthal, 2009). Although the majority of students had no issues using Twitter, the 140-character limit was identified as the most pronounced challenge, and is similar to results in other research (Rohr & Costello, 2015). In the workplace, however, focused and effective communication is important; Twitter could provide students practice with this. The removal of these limits in 2017, at least from a pedagogical perspective, may have eliminated an integrated, skill-based exercise that encouraged students to be relevant and concise, rather than having freedom to pontificate or ramble (which is better suited to a blog format learning activity; Chawinga, 2017). Such issues have been debated among researchers (Tang & Hew, 2017). Instructors preferring brevity can impose character limits in evaluations based on their own pedagogical philosophy and intended objectives.

Sense of Community

Community connectedness as a result of Twitter usage was not very strong in SOCI 3290. We propose two potential reasons for this finding: (a) students already felt a sense of connection in the class (delivered on campus) or through the discussion groups (delivered online), with the police cadets in particular being part of their own micro community, or (b) the Twitter events simply did not add any value to community engagement. In the future, course instructors should add a requirement that students post a response to at least one other student's post. Requiring students' use of Twitter is generally shown to improve student engagement and even academic performance (Junco et al., 2013). While two tweet posts were compulsory for a grade, responding to others' tweets was not a mandatory course task. This was a requirement in the introductory Human Kinetics and Recreation (HKR) course studied by Rohr and Costello (2015), in which "30% of students reported feeling really connected to their class while another 34% indicated they connected with a few individuals…" (p. 30). Only 15% of students in the HKR course referenced the Twitter events as a means to an end in comparison to 30% in SOCI 3290. In review of the higher rates of community connectedness in comparison to other online courses from Rohr and Costello (2015), it would suggest that the requirement of students responding to others' tweets can encourage this desired feeling. This too is rooted in the social constructivist theory of learning that promotes several components to effective learning and unity, including active student engagement and group work (Bates, 2015).

This finding is not uncommon (Welch & Bonnan-White, 2012). Based on the results of the connectedness in comparison to other online courses, students in online courses may not feel the same sense of community or connectedness because they are less engaged to begin with (deliberately or not) given their desire to enroll in an online course, or they do not feel connected purely due to the naturally insulated delivery format. Students assigned to the experimental group in Welch and Bonnan-White's (2012) study could skip class when Twitter assignments were due, which may have contributed to the differences in perceived engagement, as the incorporation of Twitter fostered disconnect between students and the instructor. It is important that instructors wishing to utilize Twitter in their pedagogy base this on a theoretical framework (Chickering & Gamson, 1987) and carefully consider how Twitter can most effectively be used,

clearly communicating use expectations (Rohr & Costello, 2015) that do not physically or "cyber-ly" distract students. In our study, the Twitter events were designed to take place outside of class time and were added as small assessment activities within what would otherwise be a typical assessment-load for this course. Instructors should consider all of this in deciding whether to integrate Twitter or other social media tools in their courses.

Future Approaches and Research

More than three-quarters (78.3%) of students surveyed indicted a desire to use Twitter in future course assessments. This would inevitably enhance familiarity with the tools and perhaps preference for diverse course activities online, especially for students who have had less exposure to these tools. Nevertheless, there are several caveats to the present research and use of Twitter. In the future, the study's authors would require students to respond to tweets as a means to encourage greater academic and peer engagement. This could foster a greater sense of belonging, and better identify whether the above-discussed issues were due to the implementation design or the tool itself. Identified limitations of this research also include the small sample size and the high percentage of police cadets in the campus-based course, some of whom may have been more likely to perceive strong engagement regardless of Twitter due to their regimented training.

As studies, including ours, underscored shortcomings of using Twitter (e.g., inciting grammatical issues, loss of focus, topic derailment, improper use, and increased instructor workload) and were not without limitations, they support the need for further examination of Twitter's use in post-secondary education. Other researchers echoed this need (Bista, 2014).

Our recommendations for incorporating Twitter as a teaching/assessment tool include: keeping the hashtag simple; requiring ongoing participation and responses to other students' tweets; using small group-based Twitter activities; and using Twitter immediately in the semester to provide students with vital course-related information. This latter point can ease students into using Twitter, thereby providing an opportunity to assess for, and address, any technical issues, and advance students' feelings of connectedness (Rohr et al., 2015). Instructors should also rely on theoretically-driven pedagogical models, such as those discussed previously, or the social constructivist theory of learning (Bates, 2015; Harasim, 2012) when designing their courses.

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