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Student Attention, Engagement and Participation in a Twitter-friendly Classroom

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Abstract

Guided by a participatory action research methodology, this paper outlines an approach to integrating the social media Twitter platform within a tertiary education course, based on a social, constructivist pedagogy. It explores the perceptions of students on the benefits of using this technology for enhancing attentiveness, engagement and participation in the classroom. Previous studies have shown that greater participation and communication can stimulate student learning and lead to better academic performance, increased motivation, and an appreciation of different points of views. The untested hypothesis is that social media tools like Twitter can foster this type of communication. Students posted their responses during classroom activities via Twitter and then were surveyed on their perceived benefits associated with using the social media platform. The preliminary findings of the qualitative study suggest that, while not without its challenges, social media tools like Twitter have the potential to be used effectively for education-based activities in the classroom to improve communication and engagement both amongst the students and with the instructor.

Keywords

Student engagement, social media, Twitter, microblogging, student participation, Web 2.0

INTRODUCTION

The Internet's role in changing the form of teaching is transformative (Franzoni & Assar ; Greenhow et al. 2009). The emergence and growth of commercial social media sites (SNSs) and platforms over recent years have provided instructors with opportunities to explore novel ways of exploiting these technologies to help improve teaching and student learning. While SNSs, such as Facebook and YouTube, are popular, newly emerging SNSs can be adapted to address educational audiences in ways that "facilitate a strong sense of community among students" and encourage "personal interactions that can lead to the creation of new knowledge and collective intelligence" (New Media Consortium & the EDUCAUSE Learning Initiative 2007). The emphasis on collaborative learning is steering the educational community into developing new ways to interact with and assess students. According to the Horizon Report (2007) collaborative work is a critical component of scholarly activities and the phenomenon of social networking is a direct response to this challenge, as the educational community finds ways to connect, collaborate and contribute using these social networking tools.

BACKGROUND AND LITERATURE REVIEW

Ozkan and McKenzie (2008) contend that educators need to engage students with a more 21st century approach to teaching and that social networking technologies can provide such an avenue. In the shared forum provided by an SNS, learners can construct a shared understanding and engage and collaborate in discussions, while sharing common resources, such as readings, links, and videos (McCann 2009). The creation of social networking around specific academic topics provides instructors and students great flexibility for teaching and learning. It can boost and broadens active student participation and engagement inside and outside of the classroom. Such engagement is defined here to identify the time and effort students invest in educational activities that are empirically linked to desired educational outcomes (Kuh 2009) and this can be achieved in no small measure by overcoming silence "black holes" and the shyness barrier particularly with respect to answering questions, responding to comments or asking questions in the classroom. A study by Gunawardena et al (2009) also found that student engagement and learning was enhanced by web 2.0 collaboration.

It can encourage a more democratic participatory classroom environment and provide an alternative channel of communication for the silent majority usually associated with cultural and language barriers.

Active participation fosters student attentiveness in classroom activities, and ongoing engagement and interest in the subject matter, the results of which are more than likely to ensure some degree of active learning. This assertion is supported in the ELI Horizon Report (2007) which states that SNSs “not only attract people but also hold their attention, impel them to contribute, and bring them back time and again – all desirable qualities for educational material”. Junco et al. (2010) provided evidence to suggest that students and instructors were both highly engaged in the learning process through communication and connections on Twitter.

The ability to participate in simultaneous and uninterrupted conversation is another useful feature of the use of the technology. According to Wheeler, Yeomans, and Wheeler (2008, p. 988), SNSs afford students “unprecedented opportunities to share their ideas, celebrate their creativity and receive immediate feedback” from their fellow students.

For today’s technologically savvy students, SNSs represent improved technologies for creating a heightened sense of community resulting in the acquisition of new student knowledge and collective intelligence (New Media Consortium & the EDUCAUSE Learning Initiative 2007). Mirvis, Sales and Hackett (2006) found that the efficacy of new educational interventions, especially those involving technologies, are contingent upon a variety of factors including context, choice of technology, methods for implementation and how the particular platforms intersect with students’ technology acumen/familiarity.

Twitter as an educational intervention in the classroom

Unlike previous educational viewpoints where the responsibility rested with the instructor to teach and where the learner played a passive, receptive role, social constructivism emphasizes the importance of the learner being actively involved in the learning process (Alao et al. 2010). There is a substantive paradigm shift required in classroom management, namely one in which the classroom dynamics are shifted to accommodate multi-tasking and directing the attention away from the instructor as the key focal point of the conversation. According to Laurillard (2007, pp. 33-54): “M-learning technologies offer exciting new opportunities for teachers to place learners in challenging active learning environments, making their own contributions, sharing ideas, exploring, investigating, experimenting, discussing...”

Despite the growing popularity of commercial SNSs, namely Facebook and YouTube, educators have largely been reluctant to explore the benefits of adopting SNSs in their courses. Aijan and Hartshorne (2008) examined faculty adoption of Web 2.0 applications by investigating faculty members’ knowledge and perceptions of the tools. While a majority of faculty members were aware of the pedagogical benefits these tools can offer, results indicated that when it came to actual adoption or future plans to incorporate them into their teaching a significant disconnect existed. This was also borne out in a Faculty Focus (Faculty Focus 2009) survey of college and university faculty which showed that while many questioned its educational relevance and expressed concerns that it creates poor writing skills, for others the reasons seemed to “boil down to the simple fact that they either don’t know how to use (them), or don’t have time to use.” Also, recent popular media attention and concerns centring on student privacy and safety have influenced many educational administrators’ decision to avoid the use of SNSs in the classroom (Brady et al. 2010; George 2006).

Twitter, a microblogging and social networking platform that allows users to post 140-character updates, has revolutionized the social media landscape and changed the way we communicate both in our professional and our personal lives (Cinque 2012). In the 5 years since its introduction, Twitter has garnered over 200 million users who send an estimated 155 million messages (“tweets”) per day (Twopblog 2011).

The use of Twitter afforded many advantages in this regard, particularly through communication via a single account; increasing familiarity with the technology, highly visibility of the responses in the classroom; and the expectation that the responses need to be consolidated into short 140 character tweets. This limitation on the length also encourages students to formulate more concise and precise responses and to focus their thoughts on a particular discussion or question.

Using Twitter, students are likely to be more responsive and more willing participants because of the less demanding language, grammar, spelling and syntax requirements usually expected of more formal written and verbal communication. The increasing popularity of Twitter provides a usually familiar with the platform and the short learning curve makes the tool relatively easy to setup and use.

The conversation can progress outside of the classroom and with no time limits imposed students can continue to relate to each other outside of the classroom space and use the discussion threads as study aids as well. The synchronous use of the technology allows for a sense of immediacy both in response as well as feedback. There are several enablers that promote the use of Twitter in the classroom. It is a free service and readily available where there is an Internet connection. Laptops and smart mobile devices are becoming increasingly prevalent in today’s classroom.

All of these factors make the use of the Twitter platform a serious contender for use in a classroom setting, but, as education-based SNSs are relatively new, there is little research detailing how educators are using such education-based SNSs for e-learning purposes and in particular ones examining the efficacy of Twitter as a classroom learning tool (Junco, R. C. et al. 2012).

RESEARCH METHOD

The preliminary pilot phase of this study uses a participatory action research methodology integrating action, through the implementation of a plan, with research that develops an understanding of the effectiveness of the implementation (Department of Education & Training NSW 2010). With the researcher as the participant and the main research instrument (Cochrane et al. 2009) action research is concerned with identifying issues and developing processes for improvement through feedback from participants.

Research questions

The central goal of this action research investigation is to explore the possibilities afforded by the use of the Twitter technology with a view to facilitating a positive educational change in the way students learn, engage and participate in the classroom. The ultimate aim of this study is to find answers to the following questions from an analysis of students' and the researchers' evaluations and reflections of their experiences:

1. What challenges/advantages are there in the use of Twitter as an educational tool?
2. To what extent can Twitter be utilized to support learner interactivity, collaboration, communication, reflection and interest, and thus provide pedagogically rich learning environments that engage and motivate the learner?
3. What challenges/advantages to established pedagogies do these disruptive technologies present?

Situating the research

A Twitter account was created and administered by the teacher and the class was given an hour-long introduction on how to use Twitter. Students were taught the basics of Twitter such as how to sign up for an account, how to send tweets, how to use hashtags and @ replies, and were shown how to enable privacy settings.

Based on previous research on engagement (Chickering & Ehrmann 1996; Junco, R. et al. 2010; Kuh 2009; Pascarella & Terenzini 2005) and the use of social media (Heiberger & Harper 2008; Higher Education Research Institute 2007), students were encouraged to post tweets in class in response to a number of activities that included peer evaluation of fellow students' PowerPoint presentations, answers to critical thinking questions based on short case studies and answers to review and multiple choice questions from the textbook. In other instances students were provided with a brief explanation of a concept or topic, a question was posed and, after a short time allocated to researching and reflecting, students were asked to tweet their answers. In each case, using the free SAP PowerPoint Twitter tools, the responses were projected onto a screen in front of the class as they posted their tweets and a discussion was encouraged by the teacher (See Figure 1). Students used their laptops, smart mobile devices or the in-class computers to post their tweets.

The use of Twitter in the classroom was trialled with a first year cohort of undergraduate students undertaking one of the core courses during the 2012 first semester. The cohort comprised 65 (at the start of the semester) and was made up of mature-aged, international and recently graduated high-school students.

During the course of the semester the students were asked to complete an anonymous online-survey asking them open-ended questions to reflect about, amongst other things, their experiences, both positive and negative, and their attitude towards and perceptions of Twitter as a tool for engagement and participation in in-class activities. The students were also asked to rate their level of agreement on a 5-point Likert scale ranging from Strongly Agree to Strongly Disagree on questions that addressed the themes of learning and understanding, motivation, interaction, and added-value. A total of 45 (70 percent) students fully completed the pilot online survey.

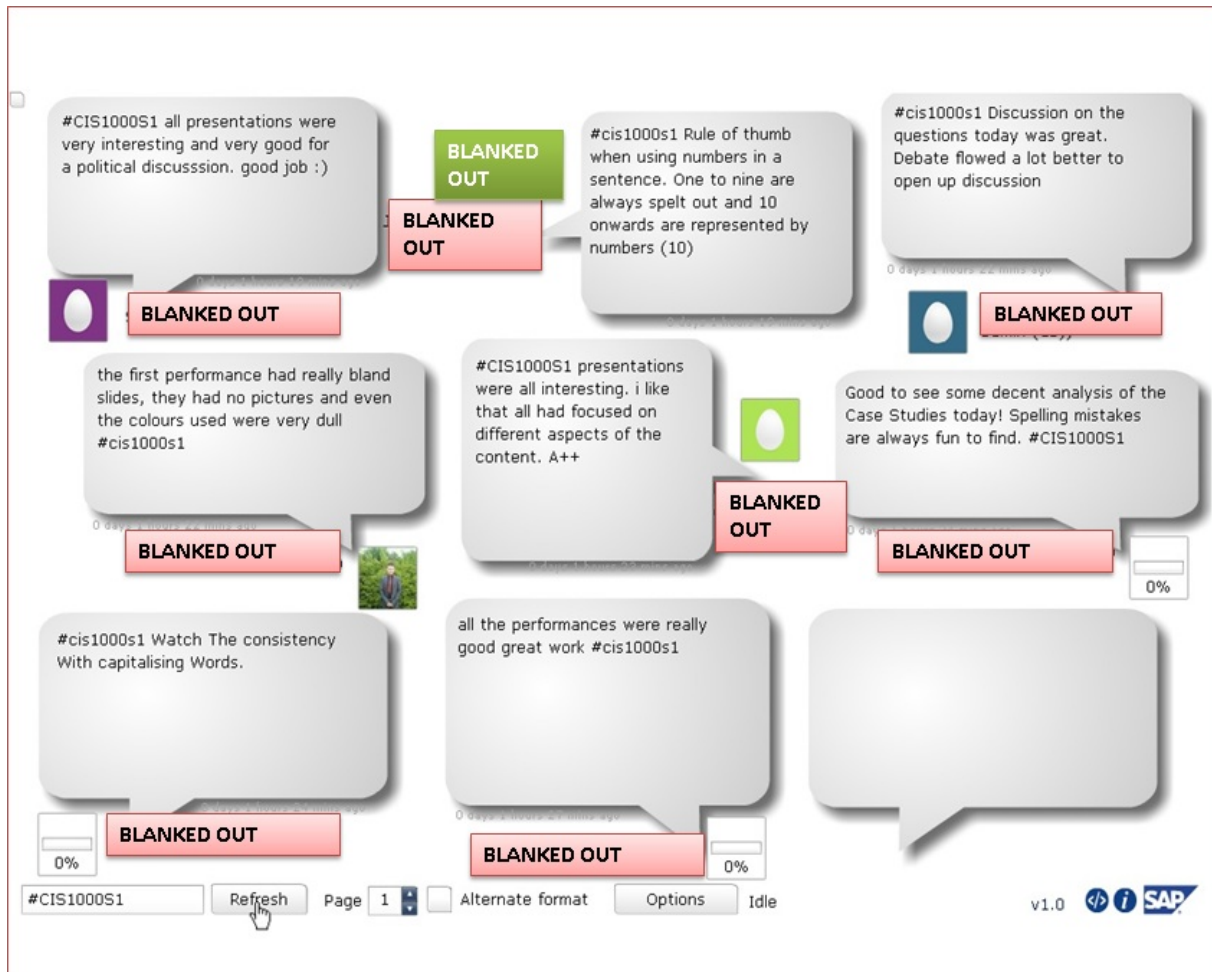


Figure 1: Tweets displayed on screen in real time

RESULTS

An preliminary analysis of the findings is discussed here. Ninety three percent of students indicated that they agreed or strongly agreed that the in-class activities added value to the course material provided online. A little more than 70 percent found attending class motivated them to learn in the course and 84 percent found that the discussions and class participations enhanced their learning and understanding of the course material. Ninety five percent found the classes provided more opportunities to interact with fellow students and the lecturer.

An examination of the open end-ended question exploring the students' perceptions of the use of Twitter in the classroom was conducted and the responses assigned to themes/constructs identified in previous research studies on technology adoption (Davis 1986, 1989), eLearning systems (Khan 2005; Melis et al. 2003), and educational engagement, democratization and collaboration (Junco, R. C. et al. 2012; Kolfshoten 2012; Rutherford 2010). The questionnaire responses were collated and each response was assigned to the given list of themes by two other academics and the researcher. The individual lists were examined and discussed until consensus was arrived at. The results of the positive responses are tabulated in Table 1 below and the negative responses were clustered around the ease of use of the technology and its perceived (pedagogical) usefulness in the classroom. The results are tabulated in Table 2 below.

Table 1: Positive responses by themes

Theme	Responses
Enjoyment	<ul style="list-style-type: none"> • Compared to other 'lecture' structured courses I'm really enjoying this learning layout. • Fun way of answering the questions • It's flexible and easy going
Communication	<ul style="list-style-type: none"> • I think it is a great way to communicate using technology • It is great because it makes you think of what exactly you should write • Utilising twitter and other online tools have introduced students to the online field of networking (outside of Facebook). It gave us a good opportunity to provide feedback in a fun way • It was a great communication tool to contact people in the class. • Twitter is letting us know what the other people in the class think about our presentation and what we as presenters could improve • I think it is good as you can see what other people think of the presentation too
Time-efficiency	<ul style="list-style-type: none"> • Twitter is great as a means of quick replies about questions we are given
Familiarity	<ul style="list-style-type: none"> • I think it is interesting. It's one of the main things that I feel makes this course so relaxed. Bringing one of our social networks into a study course makes it fun and I think this makes many of us feel comfortable being able to use something we use daily in a class
Differing viewpoints	<ul style="list-style-type: none"> • It's very useful because others talk about their point(s) of view. • I believe that it is a good thing because we can talk about what we learned and help others with the presentations so that we can all learn from each other what was right and what was wrong with the presentations
Collaboration	<ul style="list-style-type: none"> • Twitter is great I feel that a lot of students benefit from it as it removes the confrontation aspect of critiquing each other • It is a good way to interact with other people in the course. I think Twitter needs to be incorporated into everything that is done in the course
Novelty/Variety	<ul style="list-style-type: none"> • It is new and exciting.. great idea • Mixes things up a bit, very good! • Unusual

DISCUSSION

These preliminary findings reinforce some of the results from recent studies (Brady et al. 2010; DeSchryver et al. 2009; Schroeder & Greenbowe 2009) demonstrating the educational value of adopting social media platforms in the educational settings. A majority of the participants in this study appear to embrace the technology as a tool to enhance collaboration and communication in the classroom. The researcher also experienced increased levels of classroom participation, attentiveness and engagement from more students compared to previous years' offering using traditional means of encouraging such interactions.

While the study reveals that the majority of students were supportive of the use of Twitter in the classroom some of the views expressed by the respondents suggest that there are challenges associated with the use of the technology that need to be addressed through basic, preparatory training in its use and a re-enforcement of the aims and objectives of its use as a teaching aid. This was a new experience for many students and these perceptions may, in some part, be attributed to the generational and cultural mix of the student cohort and in other cases to being brought up in the traditional lecture environment and a preference for the "old way of doing things". Findings from this study highlight the need for training and support for this form of communication and interaction in educational settings for both instructors and students. They also suggest that students need time to become comfortable with the technology and its use in the classroom and that this period of familiarization and acceptance could extend through offerings over more than one semester or in more than one course.

Table 2: Negative responses by themes

Theme	Responses
Ease of use	<ul style="list-style-type: none"> • I'm not interested in using Twitter because of kind complicated • I don't like to use twitter, whenever I do use it; it never works, so I am probably using it wrong. • Didn't like the fact that we had to set up a Twitter account initially, but (I'm) not so apprehensive now. • Rather it be Facebook, more of us are familiar with it • I dislike the use of twitter, because I've never really used twitter and it gets a bit annoying sometimes • I found it confusing since I've never used it before • I hate using twitter!!!! I never had an account until now. Why can't we make a Facebook group? Everyone has Facebook. • Twitter seems slightly counterproductive as not many people know how to use it and it is a slower mechanism in regards to response time
Usefulness	<ul style="list-style-type: none"> • I think it is unnecessary • It's pointless • Something different but doesn't really contribute to anything • Is a nice addition, not a necessity but does aid a bit in criticism • It is alright (but) I can't see why it is being used. It provides no real uses considering it has such a small word limit therefore making verbal feedback far more useful • I did not have twitter before this class, its not particularly helpful to me and i will probably delete my account when the class is finished as i only check it once a week when I am in class and am asked to log on • No good. Twitter is not used enough by people to be counted as part of the course. A Facebook page however may have been a better option. • There would be better methods to gain the feedback then using Twitter

LIMITATIONS AND PROPOSED FUTURE RESEARCH

There are a number of limitations to this pilot study. The size of the sample was modest and did not go across different educational disciplines or levels of study. No account was taken of demographics, or prior knowledge or expertise in social networking. The use of an experimental group that is allowed to use Twitter in class activities and control groups who are not will lend greater insight into the outcomes of the experiment and help confirm any causal relationships between Twitter usage and student engagement and grades.

It will also be important to replicate this study with more diverse samples in terms of race, ethnicity, income, and academic majors and settings. It will also be important to specifically determine whether using Twitter can help engage students who are historically less engaged to begin with, such as those who may not be adequately prepared for university, those from different cultural backgrounds, and those who are first-generation students (Kuh 2009).

The survey instrument will be extended and enhanced in its next iteration to include questions that will help identify the influences of demographics such as age, experience, language and culture on students' attitudes and perceptions towards Twitter and other social networking tools. The study will include the constructs identified in this study well as the themes of communication, collaboration, reflection and comprehension, and convenience and comfort as explored in previous research in this area of research (Brady et al. 2010; DeSchryver et al. 2009; McCann 2009; Wheeler et al. 2008). In addition to identifying teaching strategies that can be most effective in integrating Twitter into courses, the extended study will also help in answering questions on how the explicit encouragement of Twitter usage (through course design) can impact the relationship between student engagement and grades and whether there are differences in collaboration between Twitter-friendly classrooms and ones that do not use Twitter.

Increasing numbers of students are enrolling in online distance education courses. Fostering a sense of community is critically important, especially in an online environment where students often do not get the opportunity to meet face-to-face with other students or the instructor in the course (Brady et al. 2010). It is

proposed to extend the experiment to include these students who encounter potentially more serious challenges with regards communication and engagement.

IMPLICATIONS AND CONCLUSION

The incorporation of new technologies into the contemporary classroom remains an important and compelling development with regard to producing more effective learning strategies and outcomes (Junco, R. C. et al. 2012). Previous studies have shown that the use of social media sites in educational settings can enhance the teaching and student learning process but the uptake and judicious use of these exciting and innovative technologies over the longer term has to be investigated in more depth. Preliminary results from this first pilot phase of the research suggest that there are positive effects on student engagement in the classroom. The potential exists for Twitter as a technological tool to be used for improved communication among students at the higher education level.

However, further research needs to focus on the learning benefits of these social networking sites so that they will be more likely to be adopted by the education community and incorporated into teaching strategies with greater confidence as the effectiveness and safety of the technology becomes more apparent. Findings from this study will help provide a preliminary platform for further research in the educational implications arising from the use of social media platforms and how best to incorporate them into the teaching and learning process.

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