

# A Survey of Social Media Use and the Effects of a Social Media Initiative on Graduate Student Engagement

**Abstract:** With the proliferation of online and hybrid (partially-online) doctoral programs, academic institutions face new challenges related to student engagement, retention, and graduation. Institutions are working at finding new ways to engage their online students to mitigate attrition rates with the help of social media. Stakeholders from an educational technology-related program formed a Social Media Council responsible for the management and use of the program's social media platforms. We sought to understand the effects of the work of the Social Media Council. We created a survey to assess the efficacy of institutionally supported presence in fostering the student engagement, and formation of their scholarly identity, individually and as a member of the program. Survey results inform methods for honing institutionally supported social media practice and modalities to increase engagement.

## Introduction

As learning online has grown in prominence, online and hybrid (or partially online) graduate programs have become increasingly common (Henriksen et al., 2014; National Center for Educational Statistics, 2014). Fostering a community of scholars is an important goal of many doctoral programs (Pearce, Weller, Scanlon & Kinsley, 2012). However, achieving this goal is a challenge for programs with hybrid and online students due to social and technical reasons. In terms of social dimensions, asynchronous courses restrict access to informal, daily activities and practices that promote community-building (Rhoades & Eisenberger, 2002; House, Umberson & Landis, 1988). In addition, problems with technology and the resulting sense of disconnectedness often influence online students to drop out (Willging & Johnson, 2009). Investigating these challenges is important for institutional efforts to foster a community of scholars for all students.

Encouraging the growth of a community of scholars requires more than the delivery of academic content. Learning requires robust communication, frequent social transactions, and reliable sources of information (Greenhow, Robelia & Hughes, 2009). Although communities share common, formal goals, true relationships and community identity are forged over informal transactions on personal topics of interest. Lately, social media has afforded the opportunity for this kind of informal social interaction between participants in different geographic locations (Jones, 2014). For students in online and hybrid programs, social media provides a platform to foster community-like engagement (Jones, 2014; Moran, Seaman & Tinti-Kane, 2011; Richardson & Swan, 2003). For this reason, our particular focus is on the use of social media in addition to the delivery of content.

Given the constantly-changing nature of social media, the fledgling seeds of hybrid and face-to-face student communication often fail to grow into coherent communities without deliberate efforts by graduate school programs (Johnson, Aragon & Shaik, 2000; Watson, 2008). Untended communications often result in a perceived sense of disconnection between students and the school (Suthers, Hundhausen & Girardeau, 2003). This discourages future student communication and stifles the rich exchange of new ideas that is the cornerstone of scholarly communities (Angelino, Williams & Natvig, 2007). One approach that is currently gaining momentum to address this communication gap is providing institutional support to fostering online communities through social media. These communities target the engagement of both online and face-to-face students in a common social environment in order to actively promote scholarship, dissemination of ideas, and academic identity formation (Bowen & Rudenstine, 1992).

## Background

In 2012, members of an educational technology-related doctoral degree program at a large Midwestern university formed the *Social Media Council* (SMC). The SMC is a group of face-to-face and hybrid doctoral students charged with managing the program's social media presence. We created the SMC and described our best practices for social media use in a graduate school program in an earlier presentation (Rosenberg et al., 2014). The SMC was formed because of previously unclear responsibilities and a lack of cohesion across the program's different social media platforms as well as concerns that the program's community was location-based. The council seeks to both manage the social media platforms and foster a scholarly community for other students in the program to engage in academic discourse. As a result, we sought to understand what effect we were having as a result of our efforts.

### **Purpose and Research Questions**

Based on our experience and the best practices we described, we sought to understand if we were having an effect on the students in our program. The purpose of this study, therefore, is to understand how social media use impacts hybrid and face-to-face doctoral students' engagement through a survey of the members of one graduate school program. In addition to understanding how social media use affects engagement, we also seek to understand what factors, such as participation as a face-to-face or hybrid student, influence the effect of social media. By studying students' use of social media, we will be in a better position to articulate the effects of our efforts on students in graduate school programs. We predict that fostering a social media-based academic community helps our fellow hybrid and face-to-face students collaborate and share in the traditional experiences of a graduate degree program.

Our research questions for this study are as follows:

1. What is the impact of social media use on doctoral students' engagement with their program?
2. What factors related to social media help students to feel like they are a part of a community of scholars?

### **Methods**

We conducted a survey of all of the doctoral students in the educational technology-related doctoral program with which the Social Media Council is also associated. This survey was administered in November, 2014. In the remainder of this section, we describe the sample, procedure and measures, and data analysis for the study.

#### **Participants**

The survey was emailed to a total of 92 doctoral students still enrolled in the program, out of which 31 responded to the survey, for a completion rate of 33.7%. Among the total 31 participants 53% were hybrid students and 47% were face-to-face students in the educational technology-related doctoral program. The educational technology-related doctoral program has three cohorts with hybrid students beginning in 2010, 2012, and 2014. Among the students who participated in the study, 69% were from these three cohorts. The remaining 31% students who responded were from purely face-to-face cohorts.

#### **Procedure and Measures**

An online survey was designed using the research questions as the foundation, asking the participants about the social media use in general and as a doctoral student in the educational technology-related program. This was done by asking the frequency and proficiency of their social media activity across different platforms such as Facebook and Twitter, as well as other platforms. Participants were also asked whether their frequency of

consumption differed from their content creation and posting on social media using a five-point nominal scale ranging from “multiple times a day” to “rarely, if ever”. Questions were designed to understand whether content consumption and creation differed based on the nature or type of content (i.e. if it differed depending on whether the content was academic, non-academic, or personal).

Having gathered a general understanding of their social media use, we then focused on specific platforms. First, we asked about participants’ use of Facebook and Twitter, because these are the two platforms that are actively supported by the doctoral program and run by the SMC. Pertaining to these accounts, students were asked to rate their interaction with these on a five-point Likert-type scale on factors that foster scholarly community. These factors included developing relationships, sharing experiences, enhancing collaboration, learning about the program expectations and norms, and creating new opportunity for oneself. Next, we asked students about their awareness of the program Klout list which features the social media clout scores of faculty and students in the program based on the popular social capital estimation website, Klout. This question was asked to see how their knowledge of this list affected their online interaction, if at all.

### Data Analysis

Descriptive statistics were generated to see general trends in responses. For inferential statistics, t-tests were computed for the differences between the nature of social media use, such as academic versus non-academic and personal, or between consumption and creation of content. t-tests were also conducted between hybrid and face-to-face students for these questions.

### Results

In this section, we report the results of our survey. First, we found that participants were using social media daily, primarily for personal and non-academic (rather than academic) use, and favoring Twitter over Facebook for academic activity. Of the 31 survey responders, 94% use social media either multiple times per day or daily, while 6% use social media weekly. None of the participants used social media on a monthly basis, or rarely. 90% of participants used Facebook and 63% used Twitter actively, and only 7% of participants considered themselves proficient at academic networking tools such as Research Gate or Academia (Table 1)

<i>Platform</i>	<i>I'm a Pro!</i>	<i>An active user, that's all</i>	<i>I'm just doing this to fit in</i>	<i>I just have an account. Don't use it.</i>	<i>Never tried it</i>	<i>I hate it (seriously)</i>	<i>Total Responses</i>
Facebook	14	12	2	0	0	1	29
Twitter	10	9	5	4	2	0	30
Google Plus	2	4	7	14	1	2	30
LinkedIn	3	7	13	5	1	1	30
Pinterest	3	6	3	9	5	3	29
Research Gate	1	1	4	7	16	1	30
Academia.edu	2	0	3	10	13	2	30

**Table 1:** Frequency of use of various social media platforms

Out of the 30 participants, more people (97%) were found to be using social media for reading or consuming content than those (53%) who posted content at least once a day ( $t(30) = -5.572, p < .001$ ). In relation to reading and posting content on social media, more people used it with non-academic (83%) and personal (77%)

content than academic content (40%) at least once a day (table 2). No difference was found between hybrid and face-to-face students (table 3).

<i>Activities</i>	<i>n</i>	<i>t-ratio</i>	<i>p-value</i>
Reading content and posting content	30	-5.572	0.000
Academic content and non-academic content	30	4.791	0.000
Academic content and personal content	30	3.890	0.001

**Table 2:** Differences between frequency of activities

<i>Activity</i>	<i>n</i>	<i>t-ratio</i>	<i>p-value</i>
Reading content	15	0.984	0.333
Posting content	15	-0.837	0.410
Academic content	15	-0.466	0.645
Non-academic content	15	-0.768	0.449
Personal content	15	0.849	0.877

**Table 3:** Differences between hybrid and face-to-face student (t-tests)

<i>Use</i>	<i>Facebook</i>	<i>Twitter</i>	<i>Google Plus</i>	<i>LinkedIn</i>	<i>Pinterest</i>	<i>Research Gate</i>	<i>Academia.edu</i>
<b>Entertainment</b>	22	13	2	0	5	0	0
<b>Personal learning</b>	21	22	5	5	8	1	2
<b>Course-related learning</b>	4	9	2	1	0	4	1
<b>Course-related teaching</b>	7	13	3	1	0	1	1
<b>Research</b>	4	10	2	0	2	4	2
<b>Sharing - personal</b>	26	16	1	3	5	1	0
<b>Sharing - course</b>	8	16	1	0	1	1	1
<b>Sharing – teaching</b>	6	14	1	1	0	0	0
<b>Sharing – research</b>	8	15	1	1	0	2	3

**Table 4:** Uses of different social media platforms.

Across surveyed platforms, Facebook was preferred for reading and sharing about personal topics and entertainment, while Twitter was found to be preferred for reading and sharing program related content and learning. A majority, 60%, of activities on Twitter were reported as research, course, and teaching related compared to 66% of activities on Facebook were related to personal interests and entertainment (Table 4).

On Facebook and Twitter, 93% of the students followed the program’s Twitter account and 82% liked the program’s Facebook page. In addition, while 67% used the program’s hashtag when tweeting, only 18% posted on the program’s Facebook page ( $t(28) = -4.920, p < 0.001$ ). Once again, there was no statistically significant difference

between hybrid and face-to-face students when it came to tweeting ( $t(30)=-1.560$ ,  $p=.130$ ) or posting on the program's Facebook page ( $t(30)=-1.474$ ,  $p=.152$ ).

Factors that affect scholarly community and engagement were compared between Twitter and Facebook and through questions about the social media *measurement* platform, Klout. Students felt that Twitter and Facebook were doing equally well at helping them learn about program expectations and norms ( $t(12) = -0.821$ ,  $p=.429$ ). For all the other factors, i.e. developing relationships with other students, sharing experiences with other people in the program, enhancing collaboration on research and projects, and creating new opportunities for oneself, Twitter was preferred over Facebook. Students' knowledge of program Klout list and their participation in it had no significant behavioral effects. While 70% of participants had viewed the Klout list, participants reported that it had only a minimal effect on their posting/sharing content through social media ( $M=2.84$ ,  $SD=1.46$ ), posting/sharing content in a way that facilitates other's engagement with the content ( $M=2.55$ ,  $SD=1.43$ ) in order to increase their Klout scores), and on reading/interacting with other's content ( $M=2.53$ ,  $SD=1.47$ ) on five-point Likert-type scales.

## Discussion

The purpose of this study was to understand how hybrid and face-to-face doctoral students used program-supported social media to engage with their program and the factors that affect their engagement. First, these results must be interpreted in the context of the sample. Students in the educational technology-related doctoral program may systematically differ from students in other doctoral and graduate school programs, particularly given the nature of the graduate school program we studied, with both a full-time, face-to-face program, as well as a hybrid (part-time, and both face-to-face and online) program. Even so, we have reason to believe that our results may generalize to other graduate students. The number of participants were approximately equally distributed between the face-to-face and hybrid groups, and despite this being a unique feature of the program, it may also allow us to suggest that our results include participants from what has traditionally been a common population, full-time graduate students and students who complete their doctoral degree while working in diverse educational settings. In addition, we sought to include as many of the eligible participants as possible by sending reminders throughout the three weeks that the survey was open, and received responses from a substantial number 31 (or 33.7%) of the 92 doctoral students in the program. Given the absence of research on the social media use of doctoral students, especially as regards the effects of social media on doctoral students' engagement and the factors that promote their engagement, this study contributes a portrait of how social media and doctoral study may affect one another.

We found that our participants used use social media very frequently: 94% reported use of social media once or multiple times per day. In terms of specific platforms, participants used Facebook for personal reasons, while they used Twitter for more professional reasons (Table 4). While Facebook and Twitter were used by most students, Klout, Academia.edu and ResearchGate were used very little (Table 1). Especially interesting is that social media platforms designed for academics, Academia.edu and ResearchGate, were used by almost none of the participants (Table 1). Note that the SMC does not manage platforms for any of these platforms, so a possible reason participants did not use them could be that they were not explicitly endorsed by the SMC. This may also be because participants are more interested in interacting with commonly-known platforms (such as Facebook and Twitter).

The pattern of consuming information more than producing it by program students on SMC supported social media sites spurs additional questions (Table 3). What level of community support does providing information via social media create? Should the SMC concentrate on the more commonly accessed platform of Twitter rather than Facebook, Academia.edu, or Research Gate? Or, over time, will these other sites and platforms become a richer source of support and community development as PhD students grow in the Academy?

With respect to differences between face-to-face and hybrid students, no statistically significant difference in social media use was found. As members of the SMC, we have made important connections between both hybrid and face-to-face students serving on the council. We connect through Facebook and Twitter but we also email, conference call, and text one another for the purpose of doing the work of the SMC. Are the engagement and feelings of community for students in the program better supported by encouraging service on committees related to interest and need, using the social media tools as a support to accomplish tasks, or is providing dedicated space to exchange information on various social media platforms enough?

This study generated some important initial understandings of PhD student use of social media that will guide the university and the SMC to better support and connect its graduate students. Various studies have found that the attrition rate in online (asynchronous) graduate degree programs is higher than in traditional doctoral programs (Bowen & Rudenstine, 1992; Rockinson-Szapkiw, Dunn, & Holder, 2011; Willging & Johnson, 2009). It is critical, then, that institutions interact with and promote their doctoral students' engagement (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). This study suggests some of the ways other graduate school programs can promote such engagement through leveraging the social media platforms common to graduate students. Important to us (and related to our earlier work), this study suggests that students are accessing and using program-related social media platforms to engage with their graduate school program beyond their coursework and other formal aspects of their program of study.

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