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Indice

Educating Social Scholars: Examining Novice Researchers' Practices with Social Media

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Abstract

Recent articles in the educational research field have called for a stronger research focus on students' learning with *everyday technologies* in-and-out-of classrooms and on the changing nature of scholars' practices in light of technological advancements. We present findings from a mixed methods study of whether and how novice researchers understand and practice *social scholarship* – a concept currently being debated in various disciplines – which seeks to leverage social media affordances to create expanded sites for research collaboration, peer review, dissemination, and evaluation of research impact. We found that novice researchers focused almost exclusively on social scholarship of discovery and much less on interdisciplinary, teaching, or applied scholarship. Insights from this study will appeal to those interested in examining the theory and design of graduate student learning and faculty development.

Keywords: social media, professional learning, social scholarship, digital scholarship

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1. Introduction

A stronger research focus is needed on students' learning with *everyday technologies* in light of social media advancements (DeBoer, Ho, Stump, & Breslow, 2014; Greenhow, Robelia, & Hughes, 2009; Reich, Murnane, & Willett, 2012; Tierney, 2013). Indeed, many fields outside education emphasize the need for knowledge workers with social media savvy (Partnership for 21st Century Skills, 2008; Preston, 2012). Universities, too, stress the need to better prepare students with relevant skills, knowledge, and attitudes that will enhance their learning and help them be successful. However, surveys of faculty' technology use suggest faculty are using social media for their personal and professional activities (Seaman & Tinti-Kane, 2013), but are *not* mainly using social media with students (Akçayır, 2017; Manca & Ranieri, 2016b; Rockinson-Szapkiw, Heuvelman-Hutchinson, & Spaulding, 2014; Veletsianos & Kimmons, 2016). Akçayır (2017) reported that faculty perceived social media as a communication tool rather than as a space for collaboration, connection, creation, or curation of curricular content. Manca and Ranieri (2016a) suggested a number of perceived challenges faculty feel about the use of social media, including privacy threats, the erosion of teachers' traditional roles, and lack of technical support. Nevertheless, doctoral students are increasingly taking to social media in order to become socialized to the profession and collaborate with other scholars (Ford, Veletsianos, & Resta, 2014; Rockinson-Szapkiw et al., 2014).

In this paper we present findings from a mixed methods study of whether and how doctoral students understand and practice *social scholarship* (SS) – a concept similar to *digital* and *open* scholarship – which seeks to leverage social media values and affordances to create expanded forms for research collaboration, peer review, dissemination, and evaluation of research impact (Greenhow & Gleason, 2014, 2015; Greenhow et al., 2009). Insights generated will appeal to those interested in examining the theory and design of graduate student learning and faculty development, particularly in changing social and technological contexts.

2. Definitions of scholarship today

Just as the Internet has changed the way we experience aspects of literacy (Leu, Kinzer, Coiro, Castek, & Henry, 2013), social media affords new ways for academics to engage in scholarly activities (Greenhow & Gleason, 2014; Selwyn, 2011; Veletsianos & Kimmons, 2012). *Social scholarship* is a new practice currently being debated in various disciplines, especially library sciences (Cohen, 2007; Taraborelli, 2008). Social scholarship embodies values of "openness, collaboration, access, sharing, and transparent revision" (Cohen, 2007, para. 1). Social scholarship practices seek to apply, build on, and archive the collective intelligence to transform the practice and consumption of traditional print-based research. However, these broad ideas have yet to be operationalized – let alone integrated and examined in doctoral courses – in ways that align with foundational competencies known to support Boyer's (1990) seminal four domains of scholarship (discovery, integration, teaching and learning, and application).

To further outline our definition of social scholarship introduced above, we reconsider Boyer's four domains of scholarship in light of recent writing on open and digital scholarship and social media affordances for professional work. First, the *social scholarship of discovery* (SSOD) is characterized by scholars' engaging in various forms of peer review of published research or work-in-progress, facilitated by social media. For example, researchers used Twitter to critique an article in *Science* which claimed to have discovered a gene that predicted a person's lifespan. In tweets, they critically evaluated the study's methodology and found holes in the findings to ultimately advance the knowledge base. Sharing a link to a publication on social media may also generate indirect social review via retweets, shares, likes, and favorites. Thus, social media can provide direct and indirect feedback from a broad, diverse audience – e.g., other scholars, teachers, students, policy makers – and serve as a social review process.

Second, the *social scholarship of integration* (SSOI) is characterized by the analysis, integration, and interpretation of knowledge from different disciplines in order to generate original perspectives and new understandings. Social media allows users to share personal

and professional information and has been shown to increase bridging social capital, an important aspect in network building (Greenhow & Burton, 2011) – essential for SSOI. Knowledge co-constructed by a broad base of multidisciplinary users creates opportunities for large scale data-sharing to address complex problems – e.g., a recent collaboration between the National Science Foundations in the US and China addressed environmental challenges, such as ensuring sustainable food and water systems, through the creation of transdisciplinary research networks (McDaniels, 2017).

Third, the *social scholarship of teaching and learning* (SSOTL) is characterized by sharing one's teaching artifacts and practices via social media and engaging in the various forms of feedback that social media affords. Krutka, Bergman, Flores, Mason, and Jack (2014) described ways that teachers used microblogging to communicate, discuss, and reflect on their teaching, which helped them "rethink their pedagogical choices and possibilities" (p. 91). In this way, educators who use social media to build community and socially review teaching practices can help advance the teacher knowledge base.

Fourth, the *social scholarship of application* (SSOA) is characterized by bringing theory and empirical work to inform design solutions. Social media can convene different communities such as university researchers, teaching professionals, instructional designers, journalists, policy makers, and others to collaborate around a particular topic, space, or experience. This form of scholarship promotes research *with* rather than research *on* a community. For example, an online engagement tool called "Community PlanIt: Climate Smart Boston" sought to survey the local community, create dialogue, and propose solutions to mitigate the effects of climate change on Boston (Wilson, 2016). The creation of this tool brought together a number of different stakeholders – including Boston city officials, the Engagement Lab at Emerson College, and other community-support partnerships – in order to ensure that all citizens would have an opportunity to participate in community decisions.

Given our conceptualization of social scholarship and its domains, we were interested in whether and how novice researchers perceived and enacted social scholarly practices, if at all, having been introduced

to these concepts in an introductory doctoral course. Specifically, we inquired: 1) How did students understand the concept of social scholarship?; 2) How did students apply social scholarly practices in their social media activities and what was the nature of their application?; and 3) How did students perceive these practices in relation to their developing identities as scholars?

3. Method

We collected multiple sources of data from students enrolled in a doctoral proseminar in a large, research-intensive American university. The proseminar – an introductory course delivered in seminar format to first-year doctoral students in education – was designed to introduce students to the field of educational psychology and educational technology and to support them in becoming researchers and scholars. The first author was also the course instructor; she introduced the concept of social scholarship early in the course and encouraged students to use Twitter and academic social networking sites like Academia.edu to practice social scholarship. However, students were introduced to the research project and invited to participate by the second author, who was not affiliated with the course. Eleven students (out of twelve students enrolled) volunteered to participate in the study and provided their informed consent.

For background knowledge on students' prior social media use, at the beginning of the course we administered a written survey. Most students reported using Twitter for the first time because of the class requirement, and the majority of students (7 out of 11) rated themselves with 2 or 3 (on a scale of 1 to 5) in terms of their confidence in using Twitter. Four students, all of whom had previous experience using Twitter personally or professionally, rated themselves with 4 or 5.

We collected data on students' scholarly activities from their Twitter streams during the course, online discussion posts private to course members and instructor, and the completion of three written reflections on students' social media activity at the beginning, middle, and end of the course. These reflections asked students a series of questions, e.g., inquiring about the nature and purpose of their tweet-

ing activities at each stage of the course, whether they engaged in the types of social media activities named on Seaman and Tinti-Kane's (2013) survey (which listed social media uses commonly practiced by faculty), and the benefits and challenges students perceived, if any, to using this social media as a scholar, as a teacher, and as a learner. Students were also asked to use Twitter regularly (i.e., ideally daily, but at least five times per week) as part of their class participation. All students in the class participated in a *live-tweeting* exercise: they posted comments on Twitter while simultaneously reading an assigned article for homework, sharing their thoughts, questions, reactions, and resources related to what they were reading.

Using the tracker TweetReach, we collected all tweets marked with the program hashtag for the duration of the course, resulting in a dataset of 1,497 tweets from 177 unique tweeters. While the course hashtag was introduced to the students enrolled in the proseminar, tweeters included other students in the doctoral program and program faculty, as well as scholars, students, journalists, and others beyond the institution. The range of tweets to the program hashtag from proseminar students ranged from a low of 26 tweets to a high of 162; the mean number of tweets per student was 91.

We thematically analyzed (Glesne, 2016; Saldana, 2016) this aggregate dataset (comprised of data from Twitter, class forums, and written reflections), searching for themes and patterns. We started with *etic* codes based on our a priori social scholarship framework and added *emic* codes derived from the data. Two raters independently coded the same sub-set of tweets and met subsequently to resolve disagreements until the entire data set had been coded and consensus achieved.

4. Findings

4.1. Understandings of social scholarship

Of the four domains of the social scholarship framework introduced in their doctoral seminar, only the *social scholarship of discovery* (SSOD) was widely recognized by students in their reflections. Indeed, when

asked to reflect on what it means to be a social scholar, ten students (out of 11) made reference to SSOD. Generally, students viewed social scholarship as characterized by openness, transparency, and sharing. One student observed, "A social scholar wants information to be shared for the greater goal of knowledge attainment over personal credit." A notable sub-theme was regarding Twitter as a place to keep up with the latest trends, as one student expressed: "Seeing what the major trends are is important to becoming a part of the field as well as getting to know the field."

Furthermore, a number of students (8 out of 11) described *networking* as an important aspect of being a social scholar; networking did not fit neatly into any one domain of the a priori social scholarship framework but seemed to intersect all four. One student described social scholarship as "actively building and maintaining connections with other scholars in the course of doing your work" and "using every available avenue to connect with other scholars." Our summary definition of networking – shaped by student reflections—is feeling connected to other students and scholars via making new contacts, gathering people, and building community.

Generally, when writing their reflection logs, students did not associate social scholarship with anything other than discovery (SSOD) or networking—with just a few exceptions. One student mentioned integration (SSOI) as "forging connections with other fields." Another student mentioned teaching practice (SSOTL) in linking social scholarship to "teaching exercises that are unpolished and open for revision." Two students discussed applied scholarship (SOA), noting that to be a social scholar is "to participate actively in social networks with the purpose of engaging with societal issues," which they contrasted to the pervasive 'ivory tower' view of scholarship.

4.2. Novice researchers' practices with social media

Analysis of the Twitter stream revealed that students mainly used this social media platform to keep up with research trends related to their field of educational psychology and educational technology (41% of tweets), disseminate their own or others' scholarship (32% of tweets),

and engage in collaborative knowledge building (13% of tweets were posts and replies). We also found evidence that students were cultivating and participating in a diverse network of scholars, PhD students, educators, and other stakeholders. For instance, although there were only 11 students in the course, a total of 177 unique users participated in the course Twitter stream with the program hashtag. Over one third of tweets were retweeted and 11% generated replies, suggesting that almost half of the generated tweets were attracting some form of informal social review – more indirect feedback via retweets than direct feedback through replies.

4.3. Students' perceptions of social media and scholarly practices

When asked about the benefits and threats of using social media for their scholarly practices, most of the doctoral students displayed a positive attitude. Seven students recognized value in using Twitter for their development as scholars, although for various reasons. Several students discussed Twitter as potentially facilitating enculturation into the field: "I'm a first-year student with a lot of questions, and following more experienced academics on Twitter helps me get a sense of what the wide world of academia looks like." Most commonly, students valued connecting with others in the field, building networks, and staying connected to current trends.

In examining students' reflection data, three unanticipated themes became most apparent: social media provide advantages for keeping up-to-date on trends in the research community; social media can catalyze near and far networking opportunities that might not arise otherwise; and social media can pose threats to a scholar's success and development, especially in terms of time investment and reputation management.

Keeping up with trends. Over half of the students wrote about using social media to keep up with current trends related to the field of educational psychology and educational technology or in their niche academic interests. For example, one student wrote, "... I feel [using Twitter] has raised my awareness of the work of our faculty and graduate students, and has also called my attention to articles and trends of which I would otherwise have been unaware."

Another student wrote about the benefits of using social media to connect the academic content of the course with broader trends. This student also mentioned the benefits of using social media to follow established scholars and to share academic topics with others. Similarly, another student associated staying up-to-date on research trends with, in turn, sharing knowledge with non-academic communities: "There are many articles that my classmates posted that I was able to tie to other research and to share with non-academics in explaining the work that we do." The reciprocity implied in keeping up with scholarship (consumption) and sharing findings (production) is a central idea in social scholarship, but not well articulated in most of the novice researchers' reflections.

Catalyzing networks. Five students perceived their connections to other students and scholars as a benefit of using social media for scholarly development. One student reflected, "[a benefit of using Twitter was] getting connected to graduate students who have similar interests with me." Generally, the class agreed that networking with *near* peers (e.g., classmates, peers in the program, graduate students with similar interests) and *far* others (e.g., established scholars and people not in their immediate program, college, or community) via social media enhanced their development as a scholar.

Their reflections also expressed ambivalence about using social media as developing scholars. One student admitted benefits to using Twitter generally, but displayed less conviction about its value for scholarly practices because she "[has] not seen much in the way of open scholarship related to Twitter." As first year doctoral students and, for some, first-time tweeters, this ambivalence is not surprising. As one student stated, "Twitter is only as effective as you make it."

Threats to scholarship. Less than half the class perceived threats to their scholarly development in using social media, but among those who did, time issues and reputation management were the dominant themes. For instance, three students expressed concern about social media as a distraction from academic work, and four students saw a potential threat to one's reputation. They believed how they portray themselves on social media creates a public image that may or may not be favorable, a problem for their developing reputation as a scholar:

"I am always concerned that I need to have a great insight or 'ah ha' moment to warrant publicly telling the world something. So, I am concerned about my public presence, especially in the fact that people can re-tweet and take something I have originated and potentially morph it into something different".

This doctoral student's reflection suggests ambivalence about what "warrants publicly telling," especially when the message may be perceived as less than brilliant and reveal the communicator as a non-expert or worse. His response also suggests fear that people will take his intellectual "property (something that I originated)" and misconstrue, malign, or make it into something that he can no longer claim.

5. Discussion and conclusions

In this study, we investigated how novice researchers – emerging scholars – understood the concept of social scholarship; how they applied social scholarly practices, if at all, in their social media activities; and how they perceived these practices in relation to their developing identities as scholars. Now we will consider how these findings reflect back on and help illuminate our theoretical model of social scholarship.

First, in examining how students understood and applied social scholarship, we noticed that these novice researchers were largely unable to conceive of or enact a four-dimensional approach to scholarship as described in our original model. They understood social scholarship as primarily scholarship of discovery, emphasizing staying up-to-date on research in their discipline and using social media to access and distribute resources – mainly others' research. There was almost no mention of the other three domains of social scholarship (i.e., interdisciplinary, teaching, or applied) in their written reflections, and their tweets also demonstrated this. We speculate that these patterns may result from their early indoctrination into a PhD program at a research-intensive university that emphasizes an apprenticeship approach to research. Indeed, during their first year, many of our doctoral students struggle with moving beyond

the practical implications of the research articles they read to critically evaluating research design and implications for future research and theory.

Second, we observed that in students' conceptions of the social scholarship of discovery, they rarely articulated several of the elements we originally conceived of as essential – e.g., informal social review of research via social media, via direct feedback through posts, comments, and replies; as well as indirect feedback through favorites, likes, shares, etc. On the other hand, the students' Twitter stream demonstrated that over one-third of the stream involved retweeting or replying to others' content, suggesting that direct and indirect feedback did occur even if students were not connecting these activities to their inchoate understandings of social scholarship. Again, conceptualizing scholarly identity as a continuum, perhaps expecting new researchers-in-training to articulate and embrace social scholarship as participation in public or semi-public social review is unrealistic, especially without sufficient modeling, scaffolding, and support from the academy.

Third, in exploring how students perceived their social media and scholarly practices in relation to their developing identities as scholars, we found that several of their perceptions aligned with what others have found in studying faculty integration of social media. For instance, students' saw the value in using social media to stay updated on research trends and resources they might not have learned about otherwise. This finding aligns with that of Seaman and Tinti-Kane (2013) as they studied faculty practices, which suggests that these students were, in some ways, adopting social media for scholarly purposes as do experts in the field and becoming enculturated into the academic community of practice.

Fourth, in the United States, higher educational institutions and constituencies are calling for public scholarship that embraces diverse modes of creating and circulating knowledge with publics and communities, and a commitment to public practice and consequences (e.g., see the *Imagining America* initiative at http://imaginingamerica. org/). Although we see our model of social scholarship as aligned with and advancing this broader discourse, our exploration of this

framework, as applied to doctoral students at least, suggests some re-envisioning. For instance, networking, an aspect of social scholarship our a priori framework failed to highlight, was both recognized by students as a common feature integrating the four domains of social scholarship and as a source of inspiration and engagement in social media practices. Disseminating one's own scholarship or work-in-progress for social review was neither recognized as central to social scholarship nor embraced at this stage in their careers.

Several scholars (e.g., Ellison, Steinfield, & Lampe, 2007; Valenzuela, Park, & Kee, 2009) have found that young people use social media to maintain and build their social networks and in doing so, increase their *social capital*, that is, the *sources, benefits,* and *contingencies* (Adler & Kwon, 2002) or *resources* available to people through their social interactions (Lin, 1999). Social capital can take the form of *bridging social capital*, or those external connections derived from weak ties (e.g., friends of friends) that afford us diverse perspectives and new information (Adler & Kwon, 2002; Granovetter, 1973). Social capital can also take the form of *bonding social capital* derived from strong ties (e.g., a shoulder to cry on) that stems from our internal, close friends and family (Adler & Kwon, 2002; Granovetter, 1973). The social, informational, or material resources a pair exchanges characterize their *tie* (Granovetter, 1973). Social capital researchers have argued that both bridging and bonding social capital are important because each provide different contributions to individual or organizational goals. Building social capital requires more than simply providing opportunities to connect; tasks to motivate network maintenance and building, and supportive resources, are also required (Adler & Kwon, 2002; Patulny & Svendsen, 2007).

As we consider the important sub-theme of networking that surfaced in our data, we see that the doctoral students in our study identified both internal networking with familiar *near* peers (e.g., other doctoral students in their cohort and degree program), as well as external networking with *far* others (e.g., students, scholars, and others beyond their institution) as important. Moreover, requiring their use of social media in light of their reading about social scholarship within

the context of a first-year doctoral course may have provided the motivational task and support that Adler and Kwon (2002) recommend to build social capital.

However, to better understand the nature of novice researchers' social networks over time – especially those facilitated by social media – and whether they do, in fact, increase in bonding or bridging capital tied to professional goals, we need to engage in a longer-term study of novice researchers' perceptions and practices over time. For example, we did not collect data on the size and characteristics of students' Twitter networks as they develop over their years in doctoral study (such as who they follow on Twitter, the number and make-up of people who follow them, the balance between strong links to known people – potentially bonding social capital building – and weaker links to newer contacts – potentially bridging social capital – or data on the geographic distance or diversity of the links being made). Engaging in such research would help us better understand this networking aspect and its potential relationship with our original social scholarship framework.

Finally, these insights suggest that certain domains of social scholarship – and public scholarship more broadly – as well as certain values and practices within and across its four domains (e.g., keeping up with trends, catalyzing networks, and navigating potential threats), should receive more or less prominence depending on where the scholar is along his or her professional learning continuum. In hindsight, it makes sense that our students were focused on staying "in the loop" on research trends, catalyzing networks, and, for a minority of students, weighing threats to their development of a scholarly reputation. Unlike experienced scholars in mid-to-late career, first-year doctoral students do not have trusted academic networks already in place to solicit feedback and guidance. Although we did not look specifically at the influence of students' prior knowledge, our findings also suggest that we take a closer look at the possible connection between novice researchers' individual characteristics – including their professional background, their prior social media use, and their understanding of and comfort level with using these new media generally – in order to understand how these influence their adoption of social scholarship.

5.1. Limitations and further research

Study data were collected from only 11 students attending a North American university and cannot be generalized. Further studies from a variety of doctoral degree-granting institutions around the world are needed to generate a larger body of student responses and social media use patterns to better understand novices' scholarly practices. Future research should take a longitudinal approach, incorporating rounds of in-depth qualitative interviews and talk-aloud protocols along with data mined from social media analytics over time to better understand how novice researchers act and perceive their practices, especially the rationale behind choices they make as their scholarly skills and identity develop. Finally, this study did not examine the course instructor's practices. A focus on instructors – especially examining the impact of specific pedagogical moves on students' scholarly development – would further enrich the kinds of tasks, instructional strategies, and support that foster new models of scholarship among novices, such as the social scholarship model described here.

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