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Daniel R. George & Cheryl Dellasega

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WEB PAPER

Use of social media in graduate-level medical humanities education: Two pilot studies from Penn State College of Medicine

DANIEL R. GEORGE & CHERYL DELLASEGA
Penn State Hershey College of Medicine, Hershey, USA

Abstract

Background: Social media strategies in education have gained attention for undergraduate students, but there has been relatively little application with graduate populations in medicine.

Aims: To use and evaluate the integration of new social media tools into the curricula of two graduate-level medical humanities electives offered to 4th-year students at Penn State College of Medicine.

Methods: Instructors selected five social media tools – Twitter, YouTube, Flickr, blogging and Skype – to promote student learning. At the conclusion of each course, students provided quantitative and qualitative course evaluation.

Results: Students gave high favourability ratings to both courses, and expressed that the integration of social media into coursework augmented learning and collaboration. Others identified challenges including: demands on time, concerns about privacy and lack of facility with technology. Integrating social media tools into class activities appeared to offer manifold benefits over traditional classroom methods, including real-time communication outside of the classroom, connecting with medical experts, collaborative opportunities and enhanced creativity.

Conclusions: Social media can augment learning opportunities within humanities curriculum in medical schools, and help students acquire tools and skill-sets for problem solving, networking, and collaboration. Command of technologies will be increasingly important to the practice of medicine in the twenty-first century.

Introduction

The proliferation of tools known collectively as 'social media' – these being a group of Internet-based applications that allow the widespread creation and dissemination of user generated content (Kaplan & Haenlein 2010) – have made the exchange of information a highly egalitarian process, empowering the individual user as a potential content creator and contributor to online conversation. Adoption of these tools has accelerated exponentially since their emergence last decade. It has been reported that social media usage increased by 82% in 2009 alone (The Nielsen Company 2009).

Social networking tools have progressively gained a foothold in education and have demonstrated value in the learning process. Studies have found that students in an educationally structured social networking environment can be guided to join learning communities quickly and access course material (King et al. 2009). Within these emerging online environments, conventional blogging sites as well as micro-blogging tools such as Twitter, have become widely integrated into pedagogical efforts (Johnson et al. 2009; Johnson et al. 2010). In addition to the recent emergence of Twitter as a force in education, social networks such as Facebook, content sharing sites such as YouTube, cloud storage sites like Flickr, Google Docs and Internet-based communication software such as Skype have proven to be of useful application in academic settings.

Practice points

- Integrating social media tools into medical humanities class activities offered a variety of benefits over traditional educational materials and methods.
- Social media technologies can augment traditional medical humanities education efforts and perhaps even improve them, as well as preparing students for a future in which social media will play a significant role in medicine.

There are multiple examples of these technologies enriching conversations inside classroom walls. For instance, a custom tool developed at Purdue University, Hotseat (http://purdue.edu/hotseat), allows students to use mobile devices to contribute to discussions, ask and answer questions and respond directly to teacher prompts in real-time through multiple social networking platforms, including Facebook and Twitter. Elsewhere, students have used Twitter to discuss course topics during class, with 'Tweets' being displayed on a large screen to encourage cross-group communication (Johnson et al. 2010). Educators in nursing and pharmacology

Correspondence: D. R. George, Department of Humanities, Penn State Hershey College of Medicine, 500 University Drive, Hershey, PA 17033, USA. Tel: 717 531 778; fax: 717 531 3894; email: drg21@psu.edu; Twitter @drdanielgeorge

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have used Twitter to help students to critically evaluate the information and sources of the stories, form opinions, and then apply what they have learned to nursing practice (Thames 2009; Billings et al. 2010). In each instance, the core value of social networking applications is the egalitarian and efficient means of spreading information relevant to pedagogical goals, as well as the ability to create a sense of social learning and engagement within a community (Regenberg 2010).

The numerous mobile devices through which social media tools can be accessed – laptops, smart phones, tablets, ereaders, netbooks, etc. – combined with the increasing amount of time many students spend on social networking platforms create opportunities for medical educators to venture into these media to share content with students outside of the classroom as well as within them. Blogs, micro-blogs or open-source group blogs such as 'wikis' can be used to pass along links and references between classes, update students on course logistics and give students a platform to share their thoughts and scholarship with colleagues and educators (Johnson et al. 2010). Educators have reported that social networking tools have helped them communicate ideas with students while attending conferences, assign collaborative writing assignments outside of class (for instance sharing narratives about patient care; Skiba 2008), guide students in being more succinct and to the point in their writing, expanding the context within which a classroom concept can be engaged (Parry 2008), and prompt immediate reflection about a clinical or real-life experience. Twitter has also been used for course evaluation (Stieger & Burger 2009). Creative applications of these technologies are burgeoning at universities around the world, and yet there remain fewer examples of their implementation in graduate training for medical students.

Methods

In this study, two month-long medical humanities course electives were designed to integrate social media tools, as described in the case studies below. At the conclusion of each course, students were asked to anonymously evaluate the elective using a standardised form, which asked for input on a number of items using a scale with 1 = less satisfactory and 5 = more satisfactory. Most relevant to this study were the 'Overall quality of the course', 'Course Design', 'Quality of Teaching' and 'Helpfulness of electronic resources', the results of which are reported below. Unfortunately, due to alterations in the standardised form between the two cases studies the 'Helpfulness of electronic resources' query was not in existence for case study 1. In addition, students were given the opportunity to write open-ended comments on their responses to the elective, and students in one of the electives also kept a journal in which they were expected to reflect on each class. At the conclusion of the study, investigators pooled all qualitative data and identified comments that gave reference to student attitudes towards the integration of social media into the courses.

Participants

As part of their compulsory medical humanities curriculum, 4th-year medical students at Penn State College of Medicine must take a final humanities elective after completing medical school coursework. These intensive, month-long electives are developed by faculty based on a personal interest in the humanities they feel is important for students to explore. Approximately, 15 students register for each course. In the spring of 2010, two faculty in the Humanities Department designed courses that integrated five new social media tools into their respective curriculums (Table 1). The case studies below explain how social media technology was implemented to achieve pedagogical goals through social learning.

Case study 1

In the Spring of 2010, a Creative Writing for Medicine elective was developed as a 4th-year elective. As part of this course, the 15 students kept a handwritten journal that would reflect on class content and other aspects of writing. In addition, they were to sign up for Twitter, which would initially provide them with brief writing prompts from the instructor, and then connect them to prompts from classmates. Many of the students had never used Twitter, so the first session of class involved walking them through the process of signing up for this service. While some students initially expressed concern about learning to use Twitter, others were already familiar with the technology. After walking through the steps of creating a Twitter account and using it with the instructor, anxiety was replaced by excitement, and many began using Twitter to communicate for other non-class purposes.

As students mastered the ability to respond briefly to Twitter writing prompts, the class migrated writing assignments to a shared blog. Homework assignments, random musings, creative writings and other materials could be posted here. Students responded to each other's posts and posed new

Table 1. Social media tools incorporated into the medical humanities curricula at Penn State College of Medicine.

Social media tools	Description
Twitter	Free micro-blogging platform in which nearly 100 million users worldwide publish brief text-based posts of up to 140 characters on their profile pages to alert others to what they are doing, thinking, reading or writing in the moment.
YouTube	Video-sharing website on which users can upload, share and view videos from all over the world.
Flickr	Image and video hosting website that enables cloud storage.
Skype	Software application that allows users to make voice calls over the Internet.
Facebook	Social networking website with over 400 million users worldwide.

queries in the blog, which was open only to class members. Again, a few students required help accessing the blog, but once they were online they quickly began responding to posts and creating their own.

For example, in response to the first Twitter post: 'Bidding farewell to medical school is…' several students wrote thoughtful and tastefully humourous comments in the blog. As they read each other's posts, they decided to use segments from them to create a 'master' farewell letter that would also serve as a greeting letter to the incoming class of 2010. As the students worked on merging their text, a lively discussion occurred on the Twitter interface that helped them process many parts of their medical school experience. The culmination of the letter experience was to read their summary to a group of classmates who applauded their ability to capture their experiences so accurately online and then transfer it to paper. On the last day of the course, the class discussed this assignment and students agreed that reflecting and writing about their medical school experience was beneficial. Collaborating on the letter also provided them with a rich dialogue on 'closure' as medical school came to an end.

In addition to the student-generated content, Skype was used to connect with Karen Russell, author of the book *St Lucy's Home for Girls Raised by Wolves*. Throughout the elective, students had drawn parallels between the process of 'wolf girls' being acclimated to human girlhood with medical students being transformed into physicians. Students enjoyed conversing and sharing insights with an expert on Skype, as well as obtaining answers to questions left unanswered in her story.

Case study 2

In late spring 2010, an elective called 'The Narratives of Aging: Exploring Creative Approaches to Dementia Care' was designed to help students examine aging in a cultural context, and contrast dominant reductionist understandings of dementia with a more humanistic, biopsychosocial model of care. While a variety of multi-disciplinary readings and multi-media resources constituted the core learning materials of the course, the 15-person class was structured around a service-learning component in which students facilitated four group storytelling sessions on the locked unit of an assisted living home. Students were encouraged to creatively render these service-learning experiences through artistic mediums of their choice, including literary forms such as non-fiction essays, plays, short stories, free verse poems, as well as more visual or auditory forms of expression such as short film, photography, illustration/cartoon or music.

During the first classroom meeting, students were informed that social media tools would play a central role in the course and shown how to create Twitter accounts. There was a discussion about appropriate content to share and responsible use of social media. The learning curve was small and only a negligible amount of classroom time was needed to describe how applications would be incorporated into the course and used in professional ways (i.e. respecting the confidentiality of collaborators, posting appropriate content, etc.). The first class meeting sought to provide a cross-cultural perspective on aging and mental health, and YouTube was used to stream videos made by Alzheimer's advocacy groups from multiple countries that had been posted in the video sharing community. These videos, which had been located by using simple keyword queries within the YouTube search engine and drawing upon the site's 'related videos' function that aggregates similar content, gave students exposure to the many ways Alzheimer's is framed from culture to culture, while also raising questions about conceptual models in the US.

YouTube was also used to connect students to video content of persons with dementia from multiple countries who were shown engaging in psychosocial activities such as dance, painting, pet therapy, intergenerational interaction and narrative therapy. This helped the students to view persons with dementia as generative and capable of meaningful human interaction, while creating a sense that the class' storytelling project was part of a larger movement to humanise care for this patient population. Finally, the YouTube format served as a means of structuring one out-of-class assignment that prompted students-to-students design a short film for an imaginary dementia advocacy group seeking to disseminate a more humanising portrayal of the condition. As opposed to a written essay, YouTube provided a dynamic vehicle for allowing students to craft an advocacy message. Ultimately, one student submitted her final creative project – a stop animation film adapted from one of the stories co-authored by a group of assisted living residents – to the instructor *via* YouTube.[1] It is important to note that while such a public platform as YouTube might potentially imperil confidentiality in other medical-related settings, the fact that the student's final project was a fictional narrative that included no personal information and carried no risk of abridging collaborator confidentiality enabled the video to be shared as a 'public' work. However, future medical humanities projects that make use of YouTube must be mindful of the site's 'hidden' and 'privacy' features that can be used to restrict access to sensitive content.

Twitter was also integrated into course activities, particularly, as it allowed for real-time communication between students and the course instructor. Before the students made their initial visit to the residential facility at which they would later conduct storytelling sessions, they visited the facility and recorded field notes documenting their experiences. Once in the facility, students were encouraged to send real-time observations from the field to the course instructor *via* Twitter. This required students to open Twitter accounts and download free applications that enabled them to 'tweet' from their mobile phones. Twitter created a medium through which the instructor could track student observations from a remote computer and respond to student questions in real-time. It also created an archive of moment-to-moment insights and experiences that were later reviewed during classroom discussion. Twitter was also used as a means of soliciting student responses to readings as well as a way of aggregating questions for guest speakers prior to their presentations to the class. Once again, this enabled the course instructor to interact with reader responses in real-time, and created an online archive of questions and comments that could be shared with guest speakers before they addressed the class.

Skype, a software application that allows users to make voice calls over the Internet, was also used to connect with experts in different states – and in one instance, in a different country – using real-time video chat functionality. This social networking application enabled a livelier conversation than is generally possible using a conference call setup. The computer-to-computer connection also precluded long-distance calling costs.

During storytelling sessions, the course instructor took digital pictures of students and residents interacting as they collectively co-authored stories. All photographs taken during these sessions were uploaded to the image and video hosting website Flickr, whose cloud storage functionality made them available to any student with access to the Internet. In turn, several students used these pictures for a creative final project in which they designed a scrapbook that was given to the residents. Flickr enabled the efficient exchange of these images and precluded the need for the course instructor to burn a CD with the images or transfer files to student hard drives.

Results

A comparison of student evaluations of the two courses is described in this article (Table 2). Students provided high favourability ratings for both courses, particularly towards the prompt about the helpfulness of electronic resources in case study 2.

Qualitatively, students in both courses expressed satisfaction with the integration of social media into coursework. One student wrote that, 'The Skype with [author] was one of my favourite parts of the class,' while another felt that the 'YouTube clips were good. I liked learning about the history of Alzheimer's.' For some students, the initial foray into social media was at first intimidating. At the outset of the course, one student wrote: 'I don't know how I feel about the whole blog and Twitter thing. I've never been much of a fan for having anything about me on the Internet – even if it is secure.' At the end of the course, however, this same student wrote: 'I think I might like the blog after all. It's fun reading everyone's responses to the Twitter prompts.' Very few students expressed consternation about the usage of social media; however, the criticism that emerged had to do largely with the time demanded on social media platforms outside of class. As one student wrote, 'The blog was a good idea but it was a little overwhelming to have to check [email] and Twitter and blog all the time. Might want to simplify technologies.' Another student wrote, 'I'm unsure about this Twittering business – seems confusing. My Internet savvy is already dated. The group writing has some promise – I think we made up a good system for online editing (through the blog) and idea sharing that will be more useful and effective than writing all together in one room at the same time.'

Conclusions

Integrating social media tools into medical humanities class activities offered a variety of benefits over traditional educational materials and methods (Table 3).

Table 2. Course evaluation summaries.

	Case study 1	Case study 2
Overall quality	4.2	5.0
Course design	4.4	5.0
Quality of teaching	4.8	5.0
Were electronic resources helpful	NA	4.7

In both case studies, social media applications provided platforms that enabled novel moments of learning to occur. In the classroom, tools such as Skype and YouTube enriched learning by connecting students both with external experts and novel educational content. Outside the classroom, Twitter and blogging applications sustained and augmented learning conversations, enabling real-time dialogue to take place between instructors and students; this ultimately made homework assignments a more dynamic experience, while encouraging creativity on mediums familiar to a generation of students facile with such technology. Both instructors also noted unanticipated benefits for professional training as a result of incorporating social media tools. Learning how to succinctly phrase thoughts and ideas – as was the case when students used Twitter – is a valuable skill, particularly for future doctors who will be expected to communicate with both brevity and substance in their professional lives. Further, integrating these tools, which have infiltrated popular culture, led to greater student involvement in the learning process. This was best evidenced by the fact that students in both classes acted on their own accord to use social media platforms in composing and disseminating their final projects. Such a convergence demonstrates a need for instructors to not only establish criteria and parameters for use of social media to master content of an educational nature, but also to be receptive to informal ways in which students are choosing to use social media amongst their peers. For instance, at our institution, 1st-year medical students have independently formed an informal Facebook Group, and our College of Medicine is now beginning to look at how Facebook Groups might serve as a corollary educational resource.

Social media technologies can augment traditional medical humanities education efforts and perhaps even improve them, as well as preparing students for a future in which social media will play a significant role in medicine. It has been established that patients have already begun using Twitter to share tips on coping with illnesses and sharing advice on finding doctors, while hospitals are using the service to post emergency department waiting times, and updating family members on the status of their loved ones during surgery, improve staff communication, recruit for research, facilitate networking and build the hospital's brand (Pho 2010). Doctors are using social media to disseminate, correct and expand information in conversation with professional colleagues, speak directly to networks of patients, gather information, report on conferences and carry out advocacy (Butcher 2010; Victorian 2010).

Of course, any discussion of social media in medical education must ponder the potential dangers and limitations of

Table 3. The classroom benefits of social media tools over traditional learning materials and methods.

Traditional	New	Purpose
Paper-based written assignments	Twitter-based writing prompts	Forces learners to phrase their writing succinctly Offers real-time response between faculty and students engaged in writing projects or field work Accessible platform can connect students with experts
Written home assignments on paper or computer	Blogs in which students can write about a chosen topic, or respond to each other's blog posts	Can allow group writing process that minimises competition Enhances creativity by being able to read writing and respond to it in real-time
Teleconferencing or email exchanges with medical experts	Skype, which allows a virtual face-to-face interaction in real-time	Students can 'meet' authors/experts from around the world whose work they are studying Real-time interaction between students and published author Computer-to-computer connection precludes long-distance calling fees
DVD/video recording	YouTube	Streaming video can be accessed from any internet ready computer; enables instant access to rich classroom materials that may have been previously confined to hard drives/DVDs/video cassettes Provides access to cross-cultural content Can be a means of creative homework assignments for students

these technologies, including those identified by the students in the case studies: privacy, and lack of facility with technology. About 60% of US medical schools have reported incidents of students posting unprofessional content online (Chretien et al. 2009), and certainly during this study – particularly with regards the interactions that were nested in the assisted living environment – there was an opportunity for confidentiality to be abriged by the instantaneous sharing of information across networks on social media. In both cases, students were reminded at multiple junctures of the course of the need to conduct themselves professionally in their interactions on social media, and to honour the privacy of their collaborators and not publish any images or names of residents; ultimately, no transgressions occurred in either class.

Indeed, rather than being deterred by the dangers of social media, it seems imperative that medical educators teach to the growing phenomenon. To best reinforce safeguards and teach competencies, medical humanities training programmes would be wise to integrate coursework on social media use and conduct, not only into coursework – as was the case in the two case studies presented in this article – but also into professionalism curriculums. Ideally, approaches will initiate students in peer-group conversations and give them a role in shaping institutional social media policies and opportunities for peer-reinforcement of professional conduct.

This study has several key limitations. The sample size for both case studies is small and the interventions lacked a control. It is admittedly difficult for educational interventions to introduce randomisation because of curricular restrictions, so researchers must work within institutional limitations and bring creative methods to bear in study design. Future research might increase the number of students, and, if feasible, provide a control intervention that involves traditional teaching techniques. Researchers might also consider examining the baseline- and post-attitudes of medical students towards the value of social media to measure the change in their perceptions.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

Notes on contributors

D. R. GEORGE, PhD, MSc, is an Assistant Professor, Department of Humanities, Penn State Hershey College of Medicine, Hershey, PA, USA.

C. DELLASEGA, PhD, GNP, is a Professor of Humanities and Women's Health, Penn State Hershey College of Medicine, Hershey, PA, USA.

Note

1. This video has now received hundreds of views on YouTube thanks to the networking power of social media (http://www.youtube.com/watch?v=BOxdpyB0g1I).

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