Updating Public Health Teaching Methods in the Era of Social Media

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Web 2.0[1] describes the interactive, collective intelligence of today's Internet experience. Web-based information technologies, such as social media, enhance public health practice through the accelerated dissemination of health promotion and disease detection information. Social media sites such as YouTube (www.youtube.com) have been suggested for use in public health intervention,[2] through modifications to diffusion of innovation research.[3,4] Therefore, the public health workforce will need skills to communicate through websites such as YouTube, Secondlife (www.secondlife.com), and Twitter (www.twitter.com).[5]

With 37% to 52% of Americans seeking health-related information on the Internet each year,[6] the value of such tools for public health monitoring and risk communication is becoming evident.[7] Information epidemiology, or infodemiology, studies the determinants and distribution of health information and misinformation, which may help health professionals and patients identify credible health information on the Internet.[8] The examination of health-related content on YouTube is emerging and has included smoking imagery,[9] immunizations,[10] and human papillomavirus vaccinations.[11] Ignoring mechanisms such as YouTube to disseminate conventional medical information may facilitate misinformation.[12] For risk communication, the choice of the Centers for Disease Control and Prevention and World Health Organization to use YouTube[13,14] and Twitter[15–18] for the timely communication of the spread of influenza A H1N1 virus illustrates the growing utility of these sites. To date, a number of states have implemented their own YouTube channels.[19–25]

Given the emergence of social media in public health practice, as well as its increasing use in health administration,[26,27] it is important that we integrate the use of these technologies into our teaching curriculum to prepare the future workforce. McNeilly[28] describes the need for faculty to incorporate emerging

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technology into their instruction to resonate with today's millennial generation, and YouTube is one suggested tool to actively engage learners in higher education.[28–30] Therefore, we explored the feasibility of integrating YouTube into the public health curriculum by assigning a class project for a graduate-level epidemiology course. This article describes our experiences with that process.

YOUTUBE ASSIGNMENT

A Principles of Epidemiology course, taught in the School of Medicine at the University of Missouri, Columbia, in Columbia, Missouri, included students enrolled in a master of public health and master of health administration program, and a few physicians from a faculty development fellowship. Enrolled students created video public service announcements to disseminate health information based on credible sources through YouTube. The primary teaching objective was to estimate students' ability to transform new knowledge into a YouTube video for public education, incorporating concepts of epidemiology, health promotion, and disease prevention. Secondary objectives included (*1*) motivating enthusiasm for teaching with technology innovations and (*2*) promoting social responsibility in health professional students.

Working in pairs, students chose a topic for their 60-second video based on an article that discussed modifiable risk factors.[31] Similar to what would be required in a manuscript, students were assigned to include in their videos references cited, disclosure that the project was conducted for a course, and affiliation. We expected students to uphold copyright standards and directed them to a number of open-content resources. In accordance with the University of Missouri policy, students were required to obtain signed written consent from anyone who would be identifiable in their videos. We asked students to consider the audience to which they would target their message and to suggest prevention measures by providing a specific action recommendation.[32,33] Students wrote a brief description of the basic epidemiology of their disease topic for YouTube's text box section, which provides viewers with additional information that might be difficult to include in a video. An Educational Technology Specialist (ETS) worked with the students to develop the storyboard and videos. The ETS also assisted with knowledge of copyright issues, video, editing, and available software.

Students' video topics included geriatric depression, smoking, dating violence, human immunodeficiency virus (HIV) testing, and diabetes prevention, among others. The mean video length was 65.4 seconds (median = 61, range: 54–98). The students used such software programs as Apple's iMovie and Adobe® Premier, with the majority using Microsoft® Windows Movie Maker.

After posting the videos, students completed an anonymous campus-supported evaluation tool, which was used to collect student feedback to improve teaching and learning (response rate = 57%). This project was deemed exempt by the University of Missouri Health Sciences Institutional Review Board.

RESULTS

Most (71.5%) students felt the project should be offered to future classes. Comments included:

> . . . I think [the assignment] was beneficial in several ways. I personally enjoyed learning the technology involved in such a project, and it also taught me to identify key points to portray with limited time in the context of epidemiology.

> This was a painful process at first, and it got quite frustrating at times, but in the end, I am happy that I had a chance to learn about movie editing and educate others about disease prevention. It is quite exhilarating to share your thoughts and ideas and display it for everyone to see.

Students also expressed an understanding for the health promotion aspect of this project. Comments included:

> I thought this was a great assignment. It allowed us to be creative and not to bury our noses in a book. . . . I have also been getting amazing feedback about my video, and a few people have asked to use it for other programs and organizations!

> It was a new type of project that allowed us to take the information that we have learned over the semester and apply it in a realistic way. If I were to write a structured paper about obesity, how many obese people would really take the time to read it and change their habits?

DISSEMINATION

To incentivize dissemination, a percentage of the students' project grade consisted of the number of views the videos received. Fourteen weeks after posting the videos, the median number of viewings was 856 (range: 231–2,347). The local public school district contacted one of the teams, whose video focused on healthy teen relationships, requesting permission to post the video on the school district's website and television channel. The university's Rape Education Office also expressed

interest in this team's video. A team that produced a video on ergonomics showed it to their internship preceptor who decided to use the video for employee training. Other student videos were posted on program websites and used for program recruitment. Nearly a year after posting the videos, the median number of viewings was 1,769 (range: 387–8,008).

CONCLUSIONS

Our experience suggests that students are open to and enthusiastic about using social media for health promotion, and demonstrates that integrating emerging technology into the graduate classroom is feasible. Students' qualitative responses were positive, and they gained recognition from outside organizations that expressed interest in their videos, which helped to promote a sense of social responsibility.

In describing this teaching approach, we hope to foster the development of similar assignments that incorporate emerging technology. The implications include the ability to facilitate communication and disseminate credible health information. Future challenges lie in assessing the ability to tailor messages to the target audience through YouTube, measuring the video's impact, and minimizing information overload for the viewer. Our responsibility as instructors is to prepare the next generation of graduates to see beyond the entertainment value of social media such as YouTube and envision its role in the dissemination of public health information.

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