

August 10, 2010

## A vidcasting project to promote the pharmacist's role in public health

Seena L. Haines

*Palm Beach Atlantic University*

Jenny A. Van Amburgh

*Northeastern University*

---

### Recommended Citation

Haines, Seena L. and Van Amburgh, Jenny A., "A vidcasting project to promote the pharmacist's role in public health" (2010). *Bouvé Faculty Publications*. Paper 32. <http://hdl.handle.net/2047/d20002372>

## INSTRUCTIONAL DESIGN AND ASSESSMENT

### A Vidcasting Project to Promote the Pharmacist's Role in Public Health

Seena L. Haines, PharmD,<sup>a</sup> and Jenny A. Van Amburgh, PharmD<sup>b</sup>

<sup>a</sup>Gregory School of Pharmacy, Palm Beach Atlantic University

<sup>b</sup>School of Pharmacy, Bouvé College of Health Sciences, Northeastern University

Submitted November 1, 2009; accepted January 31, 2010; published August 10, 2010.

**Objective.** To develop, implement, and assess an Internet-based vidcasting project to promote the pharmacist's role in public health.

**Design.** This was a collaborative effort for 2 different courses taught at 2 different schools of pharmacy. Faculty members created a special instructional design for students to follow in planning, producing, and publishing video public service announcements on the Internet.

**Assessment.** Formative and summative assessments, including course examinations, a grading rubric, student survey, and focus group, were implemented to evaluate student learning and public reaction. Students believed Internet video public service announcements served as a useful reference for patients and professionals, aided in promoting disease prevention and wellness initiatives, positively impacted patient-provider relationships, and increased awareness regarding significance and financial impact of disease burden.

**Conclusion.** Producing a public health information video and vidcasting it on the Internet increased pharmacy students' self-esteem, respect for peers, creative and critical-thinking abilities, and understanding of the need for and importance of pharmacists providing accurate public health information.

**Keywords:** Internet, video, public health, technology, self-care, nonprescription medication

## INTRODUCTION

The first wave of the Internet generation (Net Geners) began to enter college over a decade ago, creating a paradigm shift for educators and the challenge of evolving pedagogy to meet the needs of the net-savvy learner. Digital age students express the desire for self-directed learning opportunities and interactive environments with multiple forms of feedback. They desire assignments that create a meaningful inquiry-based learning experience that is active rather than passive.<sup>1</sup>

As pharmacists worked over the past 2 decades to expand their care roles, the Internet revolution happened and precipitated fundamental changes to how pharmacy can and will interact with its patient populations, individually and in cohorts. One effect of this unprecedented technology expansion has been to render obsolete some traditional ways that pharmacists have thought about their roles as patient educators and advocates. Public health service activity no longer is expected to use primarily

print-based tools (eg, fliers, posters, side-of-the-bus billboards, etc). One element within this technology revolution, the instantaneous ability to post video to the Internet for general access (ie, the YouTube phenomenon, otherwise known as *vidcasting*), is particularly important for 2 reasons. First, the scale of vidcasting is immense and accelerating. To better understand the scale of this phenomenon, one must consider the following numbers: Wikipedia reports 100 million video clip views daily; approximately 65,000 new videos uploaded daily; and approximately 20 million viewing visitors monthly.<sup>2,3</sup>

The judicious use of vidcasting as an instructional design method could offer students and pharmacists a new means to reach patients and serve as a needed tool to overcome some of the massive health education challenges faced by a US population with low general and health literacy levels. Whether or not health care providers approve of vidcasting as a means of public health messaging, this phenomenon is already taking place. Amid the millions of videos posted to the Internet, a subset responds to the public's desire for health-related information. A search of video clips devoted to the fairly simple topic of wart removal found 446 videos devoted to this issue, while a similar search on sunscreen and skin cancer retrieved 386 video clips. Searches for video clips addressing the more complex health care issue of asthma treatment

---

**Corresponding Author:** Seena L. Haines, PharmD, BC-ADM, CDE, Associate Professor Pharmacy Practice, Director Integrated Pharmacotherapy Services and Pharmacy Practice Residency, Palm Beach Atlantic University, 901 S. Flagler Drive, PO Box 24708, West Palm Beach, FL 33416. Tel: 561-803-2713. Fax: 561.803.2703. E-mail: seena\_haines@pba.edu

found 863 videos, and 5,080 video clips devoted to the topic of skin cancer alone. The problem with this content is source credibility: these videos can be and are produced by anyone with a cell phone camera or video camera and an Internet connection. Accuracy, quality, and/or credibility is not a guarantee. Equally as powerful as the sheer number (and rate of proliferation) of video clips that purport to offer viewers health-relevant information, is that this is a worldwide phenomenon, resulting in video postings in multiple languages, which, if well done, could offer pharmacists useful patient education tools.

Accepting the reality that their patients already use the Internet to retrieve medical information, and appreciating vidcasting's potential as a patient education medium, many leading North American medical centers, including Stanford University, Duke University, and the University of Wisconsin, are using YouTube and other Internet video distribution/sharing sites as vehicles to offer disease state education and community outreach. Similar activity has been initiated by community and government agencies.<sup>2,4</sup>

Research on the use of vidcasting as a health care tool or teaching strategy is limited,<sup>6,7</sup> with nothing found in the peer-reviewed pharmacy education literature. This paper is one attempt to rectify this omission and provide pharmacy educators with relevant information on Internet video use in higher education as well as a highly adaptable model project by which pharmacy educators can explore video creation as an instructional opportunity to meet key learning outcomes. These key outcomes include students' development of complex communication skills, audience analysis and accommodation abilities, patient education, and commitment to serving as patient advocates within both the individual and public health realm of professional interaction. All of these are entry-level practice abilities required of graduates from contemporary doctor of pharmacy (PharmD) curricula.

Exploration of why and how to integrate vidcasting as a teaching and learning tool in higher education is accelerating. The importance of instructors using media and technology in the classroom and teaching students the skills necessary to function in a "Web 2.0" world has been reported.<sup>1,8</sup> Innovative classroom techniques that use media and technology can cultivate a productive and enriched learning culture where students can think on their own and communicate their ideas clearly. Within the context of health care education, student-generated public health message videos can provide a deeper understanding of key disease-state and pharmacotherapeutics material by leveraging the power of experiential learning linked to increased health care practitioner comfort with the use of contemporary technologies. Integration of pharmacy

coursework with production of an Internet video can add relevance to content being learned, and encourage the learner to reflect on content application within a specific discipline.<sup>2</sup> Moreover, higher education should consider ways to connect school content with media and technology to help learners develop marketable skills for future careers.<sup>5</sup> Technology, pedagogy, and content are equally important in connecting to instructional objectives.

Two schools of pharmacy, Palm Beach Atlantic University (PBAU) Gregory School of Pharmacy and Northeastern University-School of Pharmacy (NU-SOP), collaborated to develop a student-learning instructional design module that supports students' mastery of specific course content and ability goals (Healthy People 2010 initiatives and nonprescription drugs of abuse). This project template also supports students' development of abilities needed to participate in public health initiatives within an increasingly computer-mediated communication paradigm. The Internet vidcasting project learning outcomes emphasize team-based student engagement for the development of a succinct health message with 5 key objectives (learning outcomes) relevant to a predetermined topic and target audience (patients, pharmacists, or other health professionals). The project was intended to raise awareness, provide tools and resources, and reinforce a reliance on evidenced-based literature.

## **DESIGN**

An instructional design was created to guide students through the process of planning for, developing, and publishing video instructional public service announcements on the Internet that promoted the pharmacist's role in public health initiatives. Prior to the development of their videos (preproduction) the students conducted a needs assessment that addressed the following: (1) who is the audience? (2) what are the key messages? (3) what is the best way to deliver the message? The assignment also required students to consider health literacy and modes of communication (text, spoken, visuals, etc) within their video, and who would have access to the information. The PBAU disease prevention and health promotion course had been established 3 years previously to provide a systematic approach to improving health outcomes from a public health perspective. The NU-SOP therapeutics with self-care course was a nonprescription medicines standalone course that had been modified to be part of the introductory therapeutics course sequence and discussed abuse problems associated with nonprescription medications. The courses were each required at their respective institution. PBAU's course occurred in the fall of the third year (PBAU has a 0-4 year pharmacy program) and NU-SOP's occurred in the spring of the second year

(NU-SOP has a 0-6 year pharmacy program). Both universities are private institutions with PharmD class sizes of 78 (PBAU) and 97 (NU-SOP). The project received IRB approval at PBAU and NU-SOP.

The projects' design incorporated several key philosophic instructional assumptions: (1) adults, unlike children, have considerable experience that allows them to contribute more immediately to a discussion, and because of that experience, adults prefer problem-based learning that is applicable to their lives<sup>9,10</sup>; (2) teachers working with adult learners can help to facilitate learning when they move to an intentional "facilitative" approach, with the teacher serving as coach and consultant, providing materials and resources, and keeping discussions/ideas moving in the right direction. Table 1 presents course descriptions and the project's specific learning outcomes for each university's course.

Working in teams (18 groups of 4-5 students at PBAU; 19 of 5-6 students at NU-SOP), students were challenged to create Internet-based public service video announcements that reflected the Healthy People 2010 and nonprescription drugs of abuse. With faculty oversight, students had to coordinate, organize, and negotiate every step of the process using leadership skills and group collaboration to successfully create the Internet video public service announcements. At both universities, topics were assigned randomly. These groups with similar topics did not work together and had different faculty advisors to avoid bias.

Co-instructors served as faculty mentors to 12 groups along with the course coordinator. The faculty mentor met with each assigned group 3 times during the semester concurrent to the project's 3 major phases: preproduction, production, and postproduction/publication. The meetings were expected to last approximately 30 minutes, with the meeting activity summary and evaluation form being completed and provided to the course coordinator for any follow-up action required before the next phase of development (formative assessment).

All project phases and all pertinent documents were discussed during a 1-hour start-of-the-term course orientation session. During this introductory session, students watched and discussed examples of Internet-based public service announcements. Throughout the course, no topic directly taught during the course was assigned to student teams for this project (eg, smoking cessation, sexually transmitted infections, osteoporosis, self-care conditions, etc). While PBAU's project was completed, it was decided not to showcase any of the videos to the NU-SOP students as we did not want to bias them nor overwhelm them. Two times in the semester the class did not meet during scheduled class periods to allow out-of-class time

to work on the project. Each team presented the final cut of its video public service announcements during class prior to the final examination.

The PBAU course coordinator developed the following project components: (1) topic randomization protocol; (2) group formation considerations and process guidelines; (3) faculty mentor process management checklist; (4) student group process management guidance documents (housed on Google doc) needed to help students through the processes of learning to use needed video equipment, understanding how to write a creative brief, and complete narrative storyboarding; (5) evaluation rubric, peer evaluation form, and media form construction and testing; (6) superlatives/ electoral ballot, and awards ceremony presentation scripting. The PBAU course coordinator also developed an equipment document to be accessed by the department secretary and student group leaders (18 individuals) to virtually request 1 of 6 camera kits, each of which included a camera, tripod, recording tape, and all power supplies for 24-hour blocks of video recording time. This equipment request/ Google document log created by the course coordinator was made available during 5 weeks of the course. All Internet video public service announcements forms were archived for electronic access via the course's E-College shell and shared with NU-SOP to aid spring semester 2009 project replication. A *webliography* of useful Web sites was provided in the course syllabi to aid in the project's video recording and editing phases.

Camera kits were made available for recording the Internet video public service announcements through the media services department at both universities. The course coordinator worked closely with the media services director from initial project planning to full conclusion. Students provided the course coordinator with the edited Internet-based video public service announcements via DVD or USB drive. These files were passed to the media services director to verify and compile onto a master DVD.

The 5 nominated projects then were reviewed by a team of faculty members and community leaders with public health backgrounds. A resulting superlative awards celebration, complete with video screening, was conducted to recognize the achievement of the top-performing student teams. Each student voted for those video projects they believed achieved a superlative level (ie, best art design, best actor, best director). No criteria were given when accessing the videos for superlatives other than a video could not receive more than 1 superlative award.

The top 3 video public service announcements from each school were posted on YouTube.com, Current.com, TeacherTube.com, and the respective institution's home page PBAU and NU-SOP.<sup>11,12</sup>

Table 1. Course Descriptions and Learning Objectives

<b>Course Description</b>	<b>Objectives</b>	<b>Assessment Method</b>	<b>Performance Outcomes</b>
<b>PBAU</b>			
Emphasis is placed on the roles that pharmacists can play in promoting health and wellness and preventing disease.	1. Define key public health principles including: epidemiology, population vulnerability, public policy, community organization engagement, and the 3 levels of prevention activities.	Objectives 1-3 assessed via rubric	Objectives 1-3 rubric outcomes Avg = 90% Range = 83%-99%
Particular attention is placed on practical interventions that pharmacists can perform, including patient education and awareness activities, health screenings, medication safety practices, disease prevention programs, methods to promote lifestyle modification and immunization certification.	2. Discuss which national prevention and wellness initiatives effectively provide patient-centered care in preventing disease and encouraging wellness (HP 2010, CDC prevention practices) through the multimedia Internet video public service announcements. <sup>a</sup>	Objective 4 assessed via cumulative examination	Objective 4 Avg = 89% Range 82%-100% correct (represented 30 pts of examination)
This course integrates 2 projects in addition to traditional assessments with examinations. The first is a motivational interviewing self-selected behavior change implemented over the course of 4 weeks, and the second is the Internet video public service announcement project. The subject area of the Internet video public service announcements in the inaugural year reflected the Healthy People 2010 (HP 2010).	3. Develop a multimedia Internet video public service announcement which effectively conveys 5 key principles regarding a public health issue in HP 2010. <sup>b</sup>		
	4. Recall the 5 principles from the HP 2010 videos as assessed by the cumulative final examination. <sup>a</sup>		
<b>NU-SOP</b>			
Emphasis is placed on the pharmacists' role in assisting patients with creating treatment plans for their self-limiting conditions (including non-pharmacological and pharmacological options) as well as the communication of this plan to the patient in both oral / written forms (in patient appropriate language).	1. Describe the active ingredients (and what nonprescription/household products may be used to achieve the effect). <sup>a</sup>	Objectives 1-5 assessed via rubric	Objectives 1-5 rubric outcomes AVG score = 93.6% Range = 82.3%-100%
The public service announcement project in the past has used role playing about nonprescription drugs (and common household products) that may be abused. The project was modified from in-class role playing to Internet video public service announcements for release on public domains (Internet video public service announcements project).	2. Describe the prevalence of abuse. <sup>a</sup>		
	3. Describe who is at risk for abusing the products and explain why the products are abused (population vulnerability). <sup>b</sup>		
	4. Discuss the short- and long-term effects of abuse <sup>a</sup>	Objective 6 assessed via final examination	Objective 6 AVG score = 90.5% Range = 76%-99% (represented 10 pts of examination)
	5. Develop a multimedia presentation which conveys 5 principle ways a pharmacist/ health care provider can impact this area. <sup>b</sup>		
	6. Recall the 5 principles from the nonprescription drugs of abuse videos as assessed by the final examination <sup>b</sup>		

Abbreviations: PBAU = Palm Beach Atlantic University; AVG = average; HP 2010 = Healthy People 2010; CDC = Centers for Disease Control and Prevention; Pts = points; NU-SOP = Northeastern University School of Pharmacy

<sup>a</sup> Knowledge

<sup>b</sup> Skills

## **EVALUATION AND ASSESSMENT**

Given the project's complexity, we used several data sources to fully understand how the project supported the achievement of course-specific learning outcomes, project-specific learning outcomes, and programmatic/institutional-level goals. At PBAU, a rubric was created to assess the following course learning objectives: (1) define key public health principles including: epidemiology, population vulnerability, public policy, community organization engagement, and the 3 levels of prevention activities; (2) discuss which national prevention and wellness initiatives effectively provide patient-centered care in preventing disease and encouraging wellness (Health People 2010, Centers for Disease Control prevention practices) through the multimedia Internet-based video public service announcements; and (3) develop a multimedia Internet-based video public service announcement which effectively conveys 5 key principles regarding a public health issue. The average score achieved by the 18 groups was 90%, with scores ranging from 83%-99%.

At NU-SOP, the same rubric was used but the objectives were slightly modified to reflect the topic addressed. The objectives were (1) describe the active ingredients (and what nonprescription/household products can be used/abused); (2) describe the prevalence of abuse (raise awareness, statistics, etc); (3) describe who is at risk for abuse of these products and explain why the products are abused; (4) discuss short- and long-term effects of abuse; (5) develop a multimedia Internet video public service announcement which effectively conveys 5 key principles regarding the public health issues. The average score achieved by the 19 groups was 94%, with scores ranging from 82%-100%.

Student mastery of course content covered on the videos was included on the final, cumulative examinations. All videos were posted on the electronic course management systems used by each university for students to review prior to the final examination. For the PBAU course, the cumulative examination represented 25% of the final grade, with 30 points representing all Internet video public service announcements authored by the group's mentor on the project. On these mean items, student performances scores ranged from 82%-100% correct. For the NU course, 10 questions were asked on the cumulative final examination related to the project's 6 objectives (10% of the final examination). Mean item student performance scores on these project-related questions ranged from 76%-99%.

### **Project Assessment**

The final project assessment process involved 2 stages of peer and expert summative assessment. Students completed peer evaluations using a standardized peer

evaluation protocol provided electronically via the course management system (E-college or Blackboard). Students were responsible for contributing and logging their roles/responsibilities and tasks (independent documentation) via online collaboration tracking forms (Google Docs) created by the group leaders. Summative evaluations were conducted by course coordinator and co-instructors through a rubric-based assessment. The Google Docs provided a reflection-based activity of the hour allocation spent by each group member over the course of the semester and provided valuable feedback as to the time required.

Students viewed all groups' public service message final cuts. As part of this screening, all students completed real-time, criteria-referenced evaluation of each video using the project evaluation rubric.

**Expert assessment.** Faculty course co-instructors also completed expert summative assessments of the final video projects. The course coordinator led these project evaluators through rubric training before and after the team presentations to achieve a desired level of interrater consensus. At PBAU, the summative assessment of the videos accounted for 30% of the student's grade. The peer evaluation comments were not weighted in the project grade, but points were deducted from those students whose peers identified that they did not contribute to the group work and responsibilities. Inaugural grades ranged from 83%-99% (average = 90%). At NU-SOP, the summative assessment of the video projects accounted for 15% of the student's final course grade (equivalent to 1 semester examination). Project grades ranged from 82%-100% (average = 94%). As done by PBAU, the peer evaluation comments were not weighted in the grade, but points were deducted from those students who did not contribute to the group work.

**Palm Beach Atlantic University Gregory School of Pharmacy.** In late August, an interim focus group illustrated student excitement and interest in the unique nature of this project. Some students expressed reservations regarding using technology, which may have been unknown to them, and balancing workload with their other courses. Overall they were appreciative of the timeline and guidance forms to help them stay on track and faced the challenge with excitement.

**Northeastern University School of Pharmacy.** When the project was first introduced to the class, there was significant apprehension as well as excitement about the project. The students appreciated the project packet provided, which included all the details, due dates, procedures, and necessary forms.

### **Student Survey**

A pre/post survey instrument containing the same questions was created and administered to assess students'

familiarity (knowledge) and confidence about Healthy People 2010 initiatives (PBAU) or nonprescription drugs of abuse (NU-SOP) in advance of the course and syllabi review (pre-project survey), and after completion of the project and the activity-to-disease state learning linkage upon conclusion of the course (post-project survey) (Table 2).

**Palm Beach Atlantic University Gregory School of Pharmacy.** On the pre-project survey instrument (response rate 24%), 89% of pharmacy students believed they had a role in educating the public about HP 2010 initiatives, but lacked familiarity with the subject matter (83%) and the confidence to deliver a clear message to the community (50%). On the post-project survey instrument (response rate 43%), students reported consistently that

their familiarity and confidence levels improved at the conclusion of the project (60% familiar and 90% level of confidence in educating patients and allied health professionals). Ninety percent of students agreed or strongly agreed that pharmacists have a role in teaching patients about a healthy lifestyle.

Students believed Internet video public service announcements served as a useful reference for patients and professionals (90% strongly agree/agree) aided in promoting disease prevention and wellness initiatives (93% strongly agree/agree), positively impacted patient-provider relationships (90% strongly agree/agree), and increased awareness regarding significance (97% strongly agree/agree) and financial impact of disease burden (78% strongly agree/agree).

Table 2. Comparison of Pharmacy Students' Pre-project and Post-project Responses

Item	PBAU Response		NU-SOP Response	
	Pre-project (N = 18)	Post-project (N = 32)	Pre-project (N = 93)	Post-project (N = 66)
Very/somewhat familiar with [HP2010 / OTC DoA] <sup>a</sup>	83.4%	96.9%	73.6%	97.0% <sup>c</sup>
Very confident / confident in ability to counsel a patient about [HP2010 / OTC DoA].	50.0%	90.7%	34.1%	90.0% <sup>c</sup>
Very confident / confident in ability to educate the public and / or allied health professionals about [HP2010 / OTC DoA]	55.6%	87.5%	34.1%	90.9% <sup>c</sup>
Average response on level of agreement with the following statements <sup>a</sup> :				
One role of a pharmacist is to teach patients strategies for healthy lifestyle	3.6	3.8	3.2	3.3
All pharmacists have a role in educating the public about [HP2010 / OTC DoA]	3.4	3.7	3.1	3.3
There are at least 5 ways a pharmacist can educate the public / patient about [HP2010 / OTC DoA]	3.4	3.7	3.1	3.2
Completing the Internet video public service announcements clips describing the [HP2010 / OTC DoA]:				
Provided valuable references or resources to share with patients and allied health professionals regarding [HP2010 / OTC DoA]		3.3		3.1
Improved my ability to promote health improvement, wellness, and disease prevention.		3.4		3.0
Positively impacted the way in which I will interact with patients in helping to prevent [HP2010 / OTC DoA]		3.3		3.0
Improved my awareness of the financial burden these problems have on the health care system		3.0		2.7
Improved my awareness on the significance of these problems in the United States		3.4		3.3
Overall rating of the project <sup>b</sup>		3.2		2.9

Abbreviations: HP2010 = Healthy People 2010; DoA= drugs of abuse; PBAU = Palm Beach Atlantic University, NU-SOP = Northeastern University School of Pharmacy

<sup>a</sup> Using Likert scale 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree

<sup>b</sup> Using Likert scale 1= least effective, 4 = most effective

<sup>c</sup>  $p > 0.001$ , as determined by Mann-Whitney U test.

**Northeastern University School of Pharmacy.** On the pre-project survey (response rate 96%) pharmacy students at NU-SOP indicated they were somewhat familiar with the issue of nonprescription drug abuse (73.6%). The majority were unconfident or very unconfident in their ability to counsel a patient (66%) or the public and/or allied health professionals (66%). Most of the students believed that pharmacists have a role in educating the public about the problem (85%). Ninety-seven percent of the students indicated they were familiar with nonprescription drugs of abuse and 90% were confident in their ability to counsel patients and public and allied health professionals, which was a significant improvement over students' pre-project responses to these items. At the completion of the project, nearly all students reported that completing the Internet video public service announcements provided them valuable references and resources to share with patients and health professions (90% strongly agree/agree), positively impacted how they would interact with patients in helping to prevent abuse of nonprescription drugs (83% strongly agree/agree), and improved their awareness of the significance of the problem in the United States (94% strongly agree/agree).

## **DISCUSSION**

This project incorporated professional and critical-thinking skills that we strive to foster in our students in preparation for their advanced clinical clerkships, which includes: process skills, team-based learning, audience analysis, health literacy assessment, drug information, critical thinking, and access to health information (literature searching). Additional professionally relevant learning outcomes are students accepting responsibility as patient advocates and self-responsibility.

This project demonstrates success based on formative feedback and summative assessments. The students found the use of Google Docs for the equipment requests and documentation of effort to be extremely useful and have since used it for preparation and planning of pharmacy organization events such as our first annual health fair screening. Moreover, the skills gained in creating and filming a video has been exercised in filming at the same health fair for historical capturing and reporting of this event.

Universities have a stated commitment to providing benefit to their communities from the expertise that exists in their academic departments. The Internet video public service announcements produced by pharmacy students have had a positive impact on those who have viewed them. Viewership has included members of the lay public, university and pharmacy administration and faculty and staff members, public health representatives, and colleagues from other schools and specialties. As of Decem-

ber 2009, the 8 public service videos posted to the Internet (YouTube, TeacherTube, Current.com) had garnered 15,686 viewings (Table 3).

Since the original postings to these venues (Table 3), a local foundation, Dorchester Substance Abuse, a digital square for Palm Beach County, and an outside organization for internal human resource development have submitted requests for permission to use the student-created public service videos, and an oil company has used the video on food safety for human resource development for employees. Such recognition and subsequent attribution of the materials' sources back to the university and to the pharmacy students (and, by extension, to the pharmacy profession) is a benefit of good citizenship to the community. In addition, this public service video project was showcased on NU's Teaching with Technology Day at the completion of the spring 2009 semester, and the Internet public service announcements were showcased during the fall 2009 Campus Technology Conference.

Both institutions planned to repeat the videocasting project during the 2009-2010 academic year. At PBAU, the Internet videocasting project continued in the same course, although a new set of topics were used and sampled randomly from several of the Joint Commission National Patient Safety goals. At NU-SOP, the project continues, but in the Comprehensive Disease Modules course as part of the newly implemented, revised curriculum. Project topics focus on disease prevention and wellness.

Macro-level refinements to the project were made in response to information gleaned from several sources, including course evaluations. A limitation of our findings was the slight difference in the evaluation rubrics used by each university because the course content, and therefore project content, differed as did the standardized institutional language adopted for rubric definitions.

Going forward, each year, topics will rotate among 2 to 3 global health areas relating to disease prevention and wellness. This will help to provide greater coverage of needed public health topics for public consumption, and also reduce bias among students resulting from viewing projects from previous years. Organizationally, the project's overall structure was changed to separate the project phase's tutorial from 1 to 3 sessions (preproduction, production, and postproduction). Students requested that the material be organized to mirror the steps in the video development process.

An important feature of this project is that it is course independent. The forms created to implement this project can be adapted easily to other pharmacy schools or health professions. The same process can be implemented with any content area. The project could span multiple courses and/or across multiple professional years in numerous

Table 3. Student Project's Published to the Internet and Viewing History

Video Topics	Number of Views <sup>a</sup>	Online Viewer Rating (5 star)	Sites Linking to the Videos Posted to YouTube
PBAU Videos			
HIV	1528	*****	<ul style="list-style-type: none"> <li>● Google Video</li> <li>● State of Play</li> <li>● Health and Safety Professional in United Kingdom</li> </ul>
Food Safety	5003	*****	<ul style="list-style-type: none"> <li>● Google Video</li> <li>● Food Safety Blog In Greece</li> </ul>
Mental Health	2048	*****	<ul style="list-style-type: none"> <li>● iMedix: Health Information, Medical Questions, and Patient Community</li> <li>● Google Video</li> <li>● Health and Safety Professional in United Kingdom</li> </ul>
Health Communication <sup>b</sup>	4675	*****	
NU-SOP Videos			
Laxatives	942	*****	
Dextromethorphan	442	**	<ul style="list-style-type: none"> <li>● The video was removed August 11, 2009 due to the reviewers' comments.</li> <li>● Comments were likely from dextromethorphan users, and they provided feedback about some of the inaccuracy of how dextromethorphan is abused. The literature states it is snorted, but several reviewers stated this is not done.</li> </ul>
Pseudoephedrine	885	*****	
Inhalant Abuse	137	*	
Total Views	15,686		

Abbreviations: PBAU = Palm Beach Atlantic University; HIV = human immunodeficiency virus; NU-SOP = Northeastern University School of Pharmacy

<sup>a</sup> Number of views as of December 2009.

<sup>b</sup> Although not voted by students as 1 of the top 3 videos in the class, this group independently posted their video online.

types of health programs, and would be an ideal project for an interdisciplinary course. The creation of the public service announcements served as an artifact of this course that provided transferability and replication as demonstrated by 2 distinct public health initiatives at PBAU and NU-SOP.

Although mandated by the Accreditation Council for Pharmacy Education (ACPE) and described in the Center for the Advancement of Pharmaceutical Education (CAPE) outcomes, historically, public health issues have not received the attention they warrant in colleges and schools of pharmacy when considered against these issues' place in contemporary health care policy and practice realities. Standards 2007, among other key regulatory and policy papers (ie, Healthy People 2010 and Healthy People 2020), urge health care educators to position public health education and intervention as central educational commitments within their curricula in an intentional attempt to better prepare health care practitioners to meet the many health care challenges that result from current gaps in public health provision at the federal, state, and local levels.

Introducing pharmacy students to new ways of developing and delivering public health messages to pop-

ulations in need is unique. These projects develop pharmacy students' awareness that public health intervention is part of their emerging scope of practice. Additionally, the Internet video public service announcements project addresses the CAPE educational outcomes, particularly those related to Social and Administrative Pharmacy, such as public health abilities and the educational objectives that focus on integrating general abilities (eg, thinking, communication, ethics, social and contextual awareness, social responsibility, social interaction, professionalism, life-long learning) into professional contexts.<sup>13,14</sup> At a more mundane level, teaching pharmacy students how to create Internet-based public health video messages about real public health problems facing our society provides them another skill set that is marketable and needed for our profession.

## SUMMARY

The integration of the Internet video public service announcements project engaged pharmacy students in creating a succinct message about diseases/conditions relative to the course content (public health/nonprescription

drug abuse), through a community of learners (public and medical community). This project harnessed the use of andragogy strategy, which emphasizes learning by doing through the use of technology. As pharmacists, these students may choose to use their gifts, talents, and new technical skills to continue to create educational messages that can reach patients in need, regardless of literacy levels, economic realities, age, and many of the other pervasive barriers to health care that continue to contribute to health inequities in our communities.

## ACKNOWLEDGEMENT

The authors express special thanks to Dr. Eric Hobson, Associate Dean for Academic Affairs, Professor of Pharmacy at Belmont University School of Pharmacy, for his advice and contribution to this manuscript. We would also like to thank Dr. Debra Reid, Assistant Clinical Professor, for her assistance in the implementation of the project at Northeastern University.

## REFERENCES

1. Barnes K, Marateo RC, Ferris S. Teaching and Learning with the Net Generation. 2007. <http://www.innovateonline.info/index.php?view=article&id=382>. Accessed June 3, 2010.
2. Trier J. "Cool" engagements with YouTube: part 1. *J Adolesc Adult Literacy*. 2007;50(5):408-412.
3. Hampton T. Academic medical centers embark on public outreach through the Internet. *JAMA*. 2008;300(9):1015.
4. Cline RJ, Hanes KM. Consumer health information seeking on the Internet: the state of the art. *Health Educ Res*. 2001;(16):671-692.
5. Burke SC, Snyder SL. YouTube: an innovative learning resource for college health education courses. *Int Electronic J Health Educ*. 2008;11:39-46.
6. Skiba DJ. Nursing education 2.0: YouTube. *Nurs Educ Perspect*. 2007;28(2):100-102.
7. Agazio J, Buckley KM. An untapped resource: using YouTube in nursing education. *Nurse Educator*. 2009;34(1):23-28.
8. Wallis C. How to bring our schools out of the 20th century. *Time*. 2006. <http://www.time.com/time/magazine/article/0,9171,1568480,00.html>. Accessed June 3, 2010.
9. Jenkins G, Clinton K, Purushotma R, Robison AJ, Weigel M. Confronting the challenges of participatory culture: media education for the 21st century. [http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS\\_WHITE\\_PAPER.PDF](http://digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF). Accessed June 3, 2010.
10. Knowles' Andragogy. <http://www.learningandteaching.info/learning/knowlesa.htm>. Accessed June 3, 2010.
11. Palm Beach Atlantic University. 2008 You Tube Honorees. Posted December 15, 2008. <http://www.pba.edu/graduatestudies/pharmacy/>. Accessed June 20, 2010.
12. Northeastern University – Office of Prevention and Education @ NU (OPEN). 2009 YouTube Honorees. Posted April 30, 2009. <http://northeastern.edu/open/Stimulants.html> and [http://northeastern.edu/open/Cold\\_Medicines.html](http://northeastern.edu/open/Cold_Medicines.html). Accessed June 20, 2010.
13. Center for the Advancement of Pharmaceutical Education - Educational Outcomes 2004. American Association of Colleges of Pharmacy Web site. <http://www.aacp.org/resources/education/Documents/CAPE2004.pdf>. Accessed June 20, 2010.
14. Center for the Advancement of Pharmaceutical Education - Educational Outcomes 2004 Supplemental Outcomes. American Association of Colleges of Pharmacy Web site. <http://www.aacp.org/resources/education/Pages/CAPEEducationalOutcomes.aspx>. Accessed June 3, 2010.