

2018-02-21

## YouTube Enhanced Case Teaching in Health Management and Policy

Jeremy C. Green

*Department of Health Management and Policy, Saint Louis University, United States, greenjc@slu.edu*

Taha Aziz

*Touro College of Dental Medicine, New York Medical College, United States*

Juliane Joseph

*Department of Health Management and Policy, Saint Louis University, United States*

Angad Ravanam

*Department of Health Management and Policy, Saint Louis University, United States*

Sobia Shahab

*School of Medicine, Washington University in St. Louis, United States*

*See next page for additional authors*

Follow this and additional works at: <https://hpe.researchcommons.org/journal>



Part of the [Health and Physical Education Commons](#)

---

### Recommended Citation

Green, Jeremy C.; Aziz, Taha; Joseph, Juliane; Ravanam, Angad; Shahab, Sobia; and Straus, Luke (2018) "YouTube Enhanced Case Teaching in Health Management and Policy," *Health Professions Education*: Vol. 4: Iss. 1, Article 8.

DOI: 10.1016/j.hpe.2017.02.006

Available at: <https://hpe.researchcommons.org/journal/vol4/iss1/8>

This Original Research Reports is brought to you for free and open access by Health Professions Education. It has been accepted for inclusion in Health Professions Education by an authorized editor of Health Professions Education.

---

# YouTube Enhanced Case Teaching in Health Management and Policy

## Authors

Jeremy C. Green, Taha Aziz, Juliane Joseph, Angad Ravanam, Sobia Shahab, and Luke Straus



# YouTube Enhanced Case Teaching in Health Management and Policy

Jeremy C. Green<sup>a,\*</sup>, Taha Aziz<sup>b</sup>, Juliane Joseph<sup>a</sup>, Angad Ravanam<sup>a</sup>, Sobia Shahab<sup>c</sup>, Luke Straus<sup>a</sup>

<sup>a</sup>Department of Health Management and Policy, Saint Louis University, United States

<sup>b</sup>Touro College of Dental Medicine, New York Medical College, United States

<sup>c</sup>School of Medicine, Washington University in St. Louis, United States

Received 8 September 2016; received in revised form 20 February 2017; accepted 22 February 2017

Available online 10 March 2017

## Abstract

**Purpose:** Case teaching is a popular method of health management and policy education but its relationship with technology is outdated. While several major publishers of case teaching materials have recently incorporated internet videos and other multimedia and online content into their offerings, these video case teaching materials are mostly on the manufacturing industry and not on the health care services industry. This project aims to expand existing case teaching materials with YouTube videos, and to report preliminary findings on learning outcomes.

**Method:** YouTube videos were selected to enhance course topics and materials found in traditional text based materials. Original videos were created in the style of Khan Academy, to prerecord short lectures promoted in the literatures on case teaching and flip format learning. Online course evaluations measured student progress on learning objectives.

**Results:** Online course evaluations were completed by 48 of 93 students. All responding students reported making progress on “acquiring skills in working with others as a member of a team” and “developing skill in expressing myself orally or in writing”. For both objectives, most of the students reported making “exceptional progress”.

**Discussion:** YouTube videos can be a valuable source of content to supplement existing case teaching materials in health management and policy. More research is needed to distinguish the effects of YouTube videos from other case teaching materials and flipped format aspects of course design. The general method of YouTube enhanced case teaching might be expanded beyond health management and policy to other topics in health professions education.

© 2018 King Saud bin AbdulAziz University for Health Sciences. Production and Hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

**Keywords:** Health occupations; Internet; Multimedia; Students; Teaching materials

## 1. Introduction

In *Teaching with Cases: A Practical Guide*,<sup>1</sup> Andersen and Schiano describe the range of readings and other materials that can be included in a case based course.<sup>1</sup> Andersen and Schiano recommend using videos in additional texts, and a contemporary education literature

\*Correspondence to: 3545 Lafayette Ave. 372, St. Louis, MO 63104-1314, United States.

E-mail address: [greenjc@slu.edu](mailto:greenjc@slu.edu) (J.C. Green).

Peer review under responsibility of AMEEMR: the Association for Medical Education in the Eastern Mediterranean Region.

Table 1  
Literature on YouTube in Health Professions Education.

Ref.	Courses	Level	Uses of YouTube	Effects of YouTube
Amgad and AlFaar <sup>34</sup>	Introduction to Health Research	Undergraduate	Lectures	Student satisfaction
Cater et al. <sup>15</sup>	Introductory Radiology	Graduate	Cases	Student satisfaction, test scores
Cox <sup>6</sup>	Organic Chemistry, Biochemistry	Undergraduate	Lectures	Student satisfaction
Gao et al. <sup>17</sup>	Dentistry, Medicine, Nursing	Undergraduate	Lectures	Student satisfaction
Giuliano and Moser <sup>14</sup>	Literature Evaluation	Graduate	Lectures	Student satisfaction, test scores
Haase <sup>8</sup>	Physics	Undergraduate	Lectures	Student satisfaction
Hekler et al. <sup>21</sup>	Food and Society	Undergraduate	Student-generated videos	Student dietary intake
Hund and Getrich <sup>19</sup>	Introduction to Biostatistics, Regression and Survival Analysis	Graduate	Lectures	Student satisfaction
Lai <sup>11</sup>	Psychiatric Nursing	Graduate	Student-generated videos	Student satisfaction, student communication skills
McCormick et al. <sup>12</sup>	Health Assessment Across the Lifespan	Graduate	Cases	Test scores
Pai <sup>29</sup>	Introductory Biology	Undergraduate	Cases	Student satisfaction
Tay and Edwards <sup>5</sup>	General Chemistry	Undergraduate	Lectures	Student satisfaction, test scores
Topps et al. <sup>18</sup>	Medicine, Nursing	Graduate	Lectures	Student satisfaction
Trelease <sup>3</sup>	Anatomy, Radiology	Graduate	Lectures	Test scores

describes some educational features of YouTube. Scholars have published descriptions of teaching with YouTube throughout higher education.<sup>2</sup> Applications of teaching with YouTube can be found in the basic sciences,<sup>3–8</sup> clinical professions,<sup>9–18</sup> and population health.<sup>19–22</sup> Although we are unaware of literature on teaching with YouTube in health management and policy, there is a literature on teaching with YouTube in other areas of management<sup>23–27</sup> and policy.<sup>28</sup> Potential uses of YouTube in teaching and learning include case studies,<sup>1,9,12,29–32</sup> clinical training videos,<sup>13,16</sup> computing tutorials,<sup>19</sup> group discussions,<sup>28,33</sup> lectures,<sup>4,10,14,34</sup> peer assessment,<sup>11</sup> and student created videos.<sup>26,35</sup>

Table 1 summarizes the literature teaching with YouTube in health professions education. Most applications use YouTube for lectures and those applications that use YouTube for cases are more clinically focused. Effects of YouTube videos on teaching and learning outcomes are generally measured with student self-reports or related student satisfaction surveys. Occasionally effects of YouTube videos are quantified using test scores. Teaching with YouTube videos might have several possible advantages over teaching with readings alone. YouTube videos can help to fill in gaps left by readings. YouTube videos tend to be shorter and better at provoking empathy and at presenting multiple perspectives. Videos might also be more appropriate than texts for conveying scientific or technical material.<sup>29</sup> Younger students might be more comfortable with technology and social media compared to older students,

and might prefer videos to texts,<sup>29</sup> and there is some evidence that pictures are simply better than words for expressing teaching materials.<sup>36</sup> Videos can help to create depictions of leadership in practice, and to demonstrate the complexity decision making, two hallmarks of case teaching methods.<sup>1</sup> YouTube videos can also be selected to emphasize the role of minorities in leadership positions.<sup>1,37</sup>

Despite the possible cognitive benefits that could result from multimedia teaching materials, a 2012 survey of 4564 faculty members in a nationally representative, online sample of higher education faculty teaching at least one course at the time of the survey found that only about 40 percent of faculty in traditional, residential educational programs used videos for teaching.<sup>38</sup> The survey included all different levels of universities from two-year colleges to major research institutions. The survey also included all different levels of faculty from adjunct instructors to tenured professors. Barriers to teaching with YouTube might include high costs, intellectual property restrictions, lack of appropriate content.<sup>29</sup> YouTube and similar sources of content have expanded considerably in recent years.<sup>36</sup> There are plenty of videos between 3 and 10 min which is generally considered the appropriate length for a given clip given human attention spans.<sup>29,36</sup> YouTube and other online sources of videos tend to be inexpensive,<sup>4</sup> and may also help to avoid copyright issues.<sup>36</sup>

Table 2  
YouTube Playlist on *The Middleboro Casebook: Healthcare Strategy and Operations*.

Class Topic	Textbook Chapter	Video Sources	Video Title	Video Duration (minutes:seconds)
Hospice Care and Medicare Payment Reform	The Community; Hillsboro County Home Health Agency, Inc.	KPBS News	New Medicare Program to Allow Some Hospice Patients More Treatment Choices	5:19
Urgent Care Centers and Health Insurance Expansions	Physician Care Services, Inc.	WDTNTV	2 News Investigates: Urgent Care Centers	4:04
Osteopathic Physicians and Graduate Medical Education	Webster Hospital	The DO	Reactions to New Single GME Accreditation System	2:49
Hospital Quality and Medicare Value-Based Purchasing	Middleboro Community Hospital	Brookings Institution	Paying for Performance in Healthcare	15:00
Ambulatory Surgery Centers and the Affordable Care Act	Medical Associates	California HealthCare Foundation; ReasonTV	On Deck at CHCF: Betsy Imholz on Ambulatory Surgery Centers; Oklahoma Doctors vs. Obamacare	4:17; 6:41
Nursing Homes and Criminal Background Checks	Jasper Gardens Nursing Home	The Economist	America's Elderly Prisoner Boom	8:13
Local Health Departments and Population Health	The Community; Hillsboro County Health Department	National Association of County and City Health Officials	The Affordable Care Act and Public Health	9:07

Teaching with cases is like teaching with stories that have educational content.<sup>29</sup> If cases are like stories, then there is an argument to make that they should be like movies. This use of videos in case teaching can help students to empathize with the protagonist of the case.<sup>39</sup> Guest lecturers can have a similar role of connecting students with course topics and applications,<sup>40–42</sup> and can help students to connect with role models and consider possible careers.<sup>41–43</sup> Guest lecturers also have the potential to provide students with an additional source of information other than the professor.<sup>44</sup> At the same time, guest speakers have some important limitations compared to YouTube videos.<sup>1,40,41,45,46</sup> Finding and scheduling appropriate guest speakers can be challenging.<sup>41,42</sup> Guest lectures are often not recorded,<sup>40,42</sup> and may be forgotten.<sup>43</sup> Guest lectures sometimes present only one specific viewpoint on a complicated topic, and might be biased and otherwise misleading.<sup>47</sup> Student responses to guest lecturers are not always favorable. In a survey of 37 undergraduate business school students at an American research university, 97% of students responded to course evaluations and ranked guest lecturers as more helpful compared to exams and readings, but less helpful compared to cases and projects.<sup>48</sup> YouTube links and similar videos have the potential to provide students with constant access to images portraying diverse stakeholders and perspectives presenting multiple sides of a single case or story.<sup>29,33,36,37</sup>

Popular publishers of case teaching materials remain focused on text based materials and lack multimedia products, at least as applied to the health care services industry. For example, Harvard Business Publishing published a total of 52 multimedia cases as of 2016, but only one of the cases published related directly to the health care services industry.<sup>49</sup> As recently as 2009, most instructors using videos for teaching used television shows, documentaries, and feature length films, and only about 17% of university faculty across fields and institutions nationally were using internet sources of video clips. By 2012 about 90% of university faculty nationally found teaching videos online.<sup>29</sup> However, the health management and policy content of YouTube has not been well documented in the scholarly literature or elsewhere.

In this paper, we describe the development of multimedia case teaching material for a health management and policy curriculum, and report preliminary findings on student learning outcomes. We followed recommendations from applications of case teaching methods to biology courses, where existing internet video clips from sources like YouTube were used to supplement more traditional text based case teaching

materials.<sup>29</sup> The remaining sections of this paper proceed as follows. We first discuss development of multimedia case teaching materials for three health management and policy courses: undergraduate courses on business sectors in health care and management of health care organizations, and a graduate course on economic evaluation. We then proceed to present an analysis of student learning outcomes consistent with case teaching approaches, and provide some more general reflections on the project and results. Our paper makes several contributions to the literature on health professions education. We explore and review the health management and policy content of YouTube, we expand the applications of case teaching in YouTube beyond clinical fields to health management, health policy, and related aspects of population health, and we map videos to cases and assignments to help disseminate teaching styles and materials.

## 2. Material and methods

Teaching materials and methods were developed for three health management and policy courses – business sectors in health care, economic evaluation, and management of health care organizations. The courses are offered as part of degree programs in a health management and policy department within a college for public health and social justice at a private, Midwestern research university. The courses on business sectors in health care and management of health care organizations are required undergraduate courses for students pursuing bachelor of science degrees in health management. The course on economic evaluation is a required graduate course for students pursuing a master's degree in public health with a concentration in health management and policy, who have successfully completed prerequisite courses in biostatistics, health economics, and health policy.

Selecting case teaching materials is an art form and a process discussed in more detail elsewhere.<sup>1,50</sup> *The Middleboro Casebook: Healthcare Strategy and Operations*<sup>51</sup> was selected as the primary source of textual case teaching materials for the undergraduate business course. Creating the YouTube playlist for this text involved a selection of videos to supplement each of the cases in the text. YouTube videos were intentionally selected to be between 3 to 10 min in length per clip<sup>29,36</sup> and in some instances multiple videos were selected per case to create stories with multiple parts.<sup>29</sup> Videos of PowerPoint presentations and similar lecture footage was intentionally avoided<sup>1</sup> as these types of lectures may not add much to the

Table 3  
YouTube Playlist on *Essential Techniques for Healthcare Managers*.

Class Topic	Textbook Chapter	Video Sources	Video Title	Video Duration (minutes: seconds)
Scientific Management and Professional Societies	First Day	Fast Company	How to Write a Mission Statement that Doesn't Suck	3:51
Effective Management and School Gardens	The New Program	TEDx Talks; USDA Food and Nutrition Service	Growing Minds by Growing Gardens: Laurie Brekke at TEDxNavesink; Healthy Habits Take Root	9:55; 3:33; 5:01; 4:59
Decision Making and Clinician Substance Abuse	Strange Behavior	Cnn; USA Today; WTIU	Drug Addiction in the Medical Profession; Drug Abuse Among Medical Professionals Rarely Detected; Prescription Drug Abuse Among Nurses a Growing Problem	2:22; 5:33; 7:01
Managing Conflict and Emotional Culture	Xi and the New Director	CBS This Morning	Aetna CEO Mark Bertolini on Changing Workplace and Health Care	8:14
Program Assessment and Nursing Facilities	An Unwelcome Surprise	Commonwealth Fund; New York Times	Nursing Home Quality: Improving Care for Our Seniors; Five-Star Nursing Homes	2:29; 7:52

Table 4  
YouTube Playlist on Economic Evaluation.

Class Topic	Video Sources	Video Title	Video Duration (minutes:seconds)
Housing Policy and Medicaid Payments	PBS	For LA's Homeless, Housing Could be Cure for Chronic Illness	7:47
Pharmaceutical Policy and Drug Costs	NewsHour	New Hepatitis-C Drug Raises Hope at a Hefty Price	7:36
Crime Policy and Pharmaceutical Developments	Instructor <sup>a</sup>	CER and ICER Calculations by Hand; CER and ICER Calculations in TreeAge	7:11; 5:07
Technology Policy and Robotic Surgery	Instructor <sup>a</sup>	Rolling Back a Tree by Hand; Rolling Back a Tree in TreeAge; Net Monetary Benefit Thresholds by Hand; Net Monetary Benefit Thresholds in TreeAge	9:40; 6:13; 9:44; 6:31
Medicaid Policy and Oral Health	Instructor <sup>a</sup>	Markov Cohorts by Hand; Markov Cohorts in TreeAge	8:28; 6:50

<sup>a</sup>Instructor sourced videos are Kahn Academy style videos created by the instructor. Instructor sourced videos created by hand are digital whiteboards with neon on black writing in the Kahn Academy style. Instructor videos created in TreeAge are screencasts of software demonstrations.

previous experiences of students.<sup>52</sup> Videos for the playlist included magazine and news sources similar to recommended sources of text based case teaching materials<sup>1</sup> and also Khan Academy videos to teach specific concepts that can be induced from a case<sup>29</sup> such as the differences between fee-for-service and pay-for-performance physician payments. We provide a complete list of YouTube videos used for case development, including hyperlinks, in [Appendix A](#).

Topics and selected materials from the refreshed business sectors in health care course are described in [Table 2](#). Each of the cases mapped to one or more YouTube videos to provide students with more detailed information about some aspects of the cases. Local affiliates of national news sources on YouTube helped to demonstrate connections between the fictional cases and to apply the themes of the cases to non-fictional settings. These physician leaders discussing hospice payments in California and parents discussing the quality of services at urgent care centers. When discussing the case on osteopathic medicine, students watched a video of medical students and seasoned physicians reacting to changes in graduate medical education accreditation and when discussing hospital payments more generally, students watched a Khan Academy style video<sup>29</sup> on physician payments. Videos on ambulatory surgery centers provided two different perspectives on these facilities – a video on ambulatory surgery centers in Oklahoma that provided more of a libertarian, free-market perspective and one from California that provided more of a regulatory, consumer protection perspective.

In addition to providing a range of perspectives, the variety of geographic locations in the YouTube videos

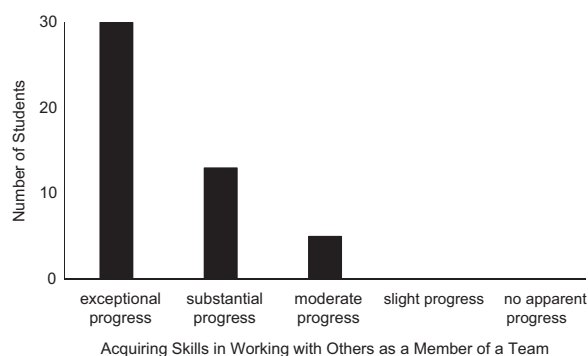


Fig. 1. Distribution of student progress on “acquiring skills in working with others as a member of a team” from 48 students responding to online course evaluations.

can help to demonstrate the application of Middleboro to any type of community for students who otherwise might be more interested in a specific region or city. In discussing the nursing homes and the construction of a prison in Middleboro as it relates to provision of health care for the elderly, students watched a video showing prisoners discussing their health care needs and innovations in service delivery for a vulnerable population. In discussing the health department in Middleboro as it relates to the Affordable Care Act, students were provided with an of a public health official in Chicago.

The YouTube playlist for the Middleboro Casebook demonstrates the feasibility of creating video enhanced case teaching materials<sup>29</sup> for health administration education using publicly available sources of teaching materials. Many of the sources are like those recommended for textual case materials<sup>1</sup> such as the Economist and Brookings Institution. Multiple videos



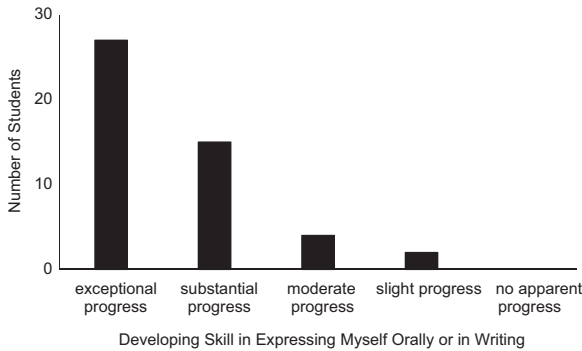


Fig. 2. Distribution of student progress on “developing skills in expressing myself orally or in writing” from 48 students responding to online course evaluations.

can be combined within a single case<sup>29</sup> to provide different perspectives on a single issue as opposed to the use of a textbook<sup>53</sup> which tends to be inappropriate for case teaching methods<sup>1</sup> and might only provide a single perspective or voice on the course topic.

A logical next step after creating a YouTube playlist for *The Middleboro Casebook: Healthcare Strategy and Operations* was to extend the general teaching technique of combining YouTube videos with case studies to refresh other courses and to develop new courses. YouTube playlists were created for a more advanced undergraduate course on Management of Health Care Organizations, and to a graduate course on Economic Evaluation. Management of Health Care Organizations traditionally required textual case teaching materials from *Essential Techniques for Healthcare Managers*.<sup>54</sup> YouTube videos were mapped to the cases and delivered as a YouTube playlist as described in Table 3.

Incorporating YouTube into the graduate course on economic evaluation involved finding similar materials to the undergraduate courses and also the conception, scripting, and recording of original video content by the instructor to provide students with more advanced content.<sup>29</sup> In particular, we prerecorded short, 5–10 min lectures, using a neon on black digital whiteboard as recommended in *The One World Schoolhouse: Education Reimagined*,<sup>55</sup> demonstrated online,<sup>56</sup> and published in peer-reviewed literature.<sup>57</sup> For students, shorter and prerecorded lectures remove the demands of note taking during lectures, and allows for unlimited repetition of course content at the pace of each individual student. Prerecorded lectures also allow students more flexibility to work on their own time in their preferred settings. Instructors can use class time to make themselves available for one on one discussions with each individual student or group of students.

Instructors and students will also find additional time available for research.

Economic evaluation is traditionally taught as an entirely or almost entirely quantitative course and both the teaching of its methods and the application of these methods to realistic problems has been particularly challenging for instructors. Quantitative material can be emotionally challenging for students.<sup>1</sup> Economists have found flipped classrooms, where lower level content delivery is moved outside of the classroom and higher level activities are completed inside of the classroom, to be helpful in effectively teaching quantitative methods to different types of students. Case teaching methods similarly use classroom time for more advanced levels of teaching and learning and some scholars have drawn connections between case teaching and the flipped classroom model.<sup>1,58</sup>

Unfortunately, there is little centralized availability or sharing of videos developed for teaching flipped format case courses.<sup>58</sup> Table 4 shows the YouTube playlist for the graduate course on economic evaluation. The format of the course is like the undergraduate management courses, with the addition of advanced content designed by the instructor. There are some videos relating to economic evaluation on YouTube, but they are usually recordings of PowerPoint slides which does not do much to alleviate the problems inherent in a traditional lecture format.<sup>1,58</sup> Original Khan Academy style videos<sup>29</sup> and screencast recordings of software applications were developed to introduce core quantitative concepts and methods relating to economic evaluation and to help students to break down complicated problems into a series of smaller analytic steps. The methods videos were embedded within the cases<sup>58</sup> to demonstrate their application to concrete problems. Students demonstrated oral and written communication skills through presentations and reports based on case assignments that students complete in groups of 5 or 6 individuals. We provide a sample case assignment in Appendix B.

### 3. Results and discussion

To examine student progress on development of skills related to case teaching philosophies,<sup>59–62</sup> student self-assessments were collected using the national IDEA system as described elsewhere in the peer-reviewed literature.<sup>60,63</sup> Learning objectives were student progress on: (1) “acquiring skills in working with others as a member of a team” and (2) “developing skill in expressing myself orally or in writing”. Of 93 students across all three of the YouTube enhanced case



teaching courses, 48 students completed the online course evaluations, yielding a response rate of about 52% which is comparable to other, published studies that use student evaluations of teaching.<sup>60,64,65</sup> Figs. 1 and 2 report the results of the student course evaluations for the learning objectives related to teamwork, and communication skills, respectively. Of those students who completed the course evaluations, all students reported making progress on both teamwork and communication skills. For both teamwork and communication skills, most students reported making “exceptional progress”.

The favorable course evaluations related to the YouTube enhanced case teaching methods do come with some caveats. A more general limitation of the data is that the literature continues to debate the validity of student self-reports of learning outcomes.<sup>64,66</sup> A more specific limitation of the data, in the context of this analysis, is that we are unable to distinguish evaluations of the YouTube videos from evaluations of the course. It is not clear from this data whether the students benefited most from the case teaching method in general, the flipped format aspects of the course design, the prepackaged printed cases, the supplemental readings, or the video enhancements.

The teaching techniques described throughout this paper combine some of the common themes in case teaching,<sup>1</sup> and flipped classrooms.<sup>67</sup> Compared to traditional teaching methods, case teaching makes students responsible for their own learning, which is consistent with evidence on the relative effectiveness of active learning strategies compared to passive lecture practices.<sup>52</sup> Course preparation usually involves additional startup time than lectures,<sup>1</sup> such as learning how to use the hardware and software required to create original Khan style videos.<sup>57</sup> The additional work by instructors in course preparation has benefits beyond their own students’ learning. YouTube videos, whether created from scratch<sup>19,68</sup> or curated from existing sources,<sup>29,69</sup> are easy to share with faculty in other fields and at other institutions.<sup>18,68,70,71</sup>

## Disclosure

Ethical approval: None.  
Funding: None.  
Other disclosure: None.

## Acknowledgements

The authors thank participants in the Association of University Programs in Health Administration Annual

Meeting in Kansas City, from June 22 to 24, 2016 for their energetic commentary and discussion of preliminary results from this project. Additional thanks to participants in the Saint Louis University Scholarship of Teaching and Learning Symposium in St. Louis, on October 23, 2015 for their interest in the development of teaching materials and course design more generally. Special thanks to Kimberly Enard, PhD, Kathleen Gillespie, PhD, Darcell Scharff, PhD, and Michael Vaughn, PhD in the College for Public Health and Social Justice at Saint Louis University for reviewing drafts of the manuscript.

## Appendix A

YouTube videos for case development.

2 News investigates: urgent care centers [Internet]. Moraine (OH): WDTN-TV 2 NEWS; 2014 September 22 [cited 2017 February 15]. Video: 4:04 min. Available from: <http://www.youtube.com/watch?v=iVKjd3Rf6kw>.

Aetna CEO Mark Bertolini on changing workplace and health care [Internet]. New York (NY): CBS This Morning; 2015 March 26 [cited 2017 February 15]. Video: 8:14 min. Available from: [http://www.youtube.com/watch?v=\\_j0dAWPRDXy](http://www.youtube.com/watch?v=_j0dAWPRDXy).

America's elderly prisoner boom [Internet]. London (UK): The Economist; 2015 June 18 [cited 2017 February 15]. Video: 8:13 min. Available from: <http://www.youtube.com/watch?v=jXnQz2CqzYg>.

Drug abuse among medical professionals rarely detected [Internet]. McLean (VA): USA Today; 2014 April 16 [cited 2017 February 15]. Video: 5:33 min. Available from: <http://www.youtube.com/watch?v=QOQ3KPcFwfk>.

Drug addiction in the medical profession [Internet]. Hartford (CT): ctnow; 2010 November 23 [cited 2017 February 15]. Video: 2:22 min. Available from: <http://www.youtube.com/watch?v=5xfC25y1dqQ>.

Five-star nursing homes [Internet]. New York (NY): The New York Times; 2014 August 26 [cited 2017 February 15]. Video: 7:52 min. Available from: <http://www.youtube.com/watch?v=-UVq5Cm40ac>.

For LA's homeless, housing could be cure for chronic illness [Internet]. Arlington (VA): PBS NewsHour; 2014 December 12 [cited 2017 February 15]. Video: 7:47 min. Available from: <http://www.youtube.com/watch?v=mGQoEBKExsY>.

Growing minds by growing school gardens: Laurie Brekke at TEDxNavesink [Internet]. Red Bank (NJ): TEDxNavesink; 2014 June 12 [cited 2017 February 15]. Video: 9:55 min. Available from: <http://www.youtube.com/watch?v=PGOPtkNFybk>.

Healthy habits take root: engaging the community in farm to school efforts [Internet]. Washington (DC): United States Department of Agriculture; 2014 October 28 [cited 2017 February 15]. Video: 3:33 min. Available from: <http://www.youtube.com/watch?v=i76AdFWZ4QA>.

Healthy habits take root: farm to school impacts [Internet]. Washington (DC): United States Department of Agriculture; 2014 September 30 [cited 2017 February 15]. Video: 5:01 min. Available from: [http://www.youtube.com/watch?v=MID1vU3\\_LeI](http://www.youtube.com/watch?v=MID1vU3_LeI).

Healthy habits take root: getting started with farm to school [Internet]. Washington (DC): United States Department of Agriculture; 2014 October 7 [cited 2017 February 15]. Video: 4:59 min. Available from: <http://www.youtube.com/watch?v=cmxkY8DEokc>.

How to write a mission statement that doesn't suck [Internet]. New York (NY): Fast Company; 2010 September 16 [cited 2017 February 15]. Video: 3:51 min. Available from: <http://www.youtube.com/watch?v=LJhG3HZ7b4o>.

New hepatitis-C drug raises hope at a hefty price [Internet]. Arlington (VA): PBS NewsHour; 2014 April 23 [cited 2017 February 15]. Video: 7:36 min. Available from: <http://www.youtube.com/watch?v=MDs9NmIP9Zs>.

New Medicare program to allow some hospice patients more treatment choices [Internet]. San Diego (CA): KPBS Public Broadcasting; 2014 April 8 [cited 2017 February 15]. Video: 5:19 min. Available from: [http://www.youtube.com/watch?v=JxIcxwI\\_bAI](http://www.youtube.com/watch?v=JxIcxwI_bAI).

Nursing home quality: improving care for our seniors [Internet]. New York (NY): Commonwealth Fund; 2013 July 25 [cited 2017 February 15]. Video: 2:29 min. Available from: <http://www.youtube.com/watch?v=5VtxCfSyrXg>.

Oklahoma doctors vs. Obamacare [Internet]. Los Angeles (CA): Reason TV; 2012 November 15 [cited 2017 February 15]. Video: 6:41 min. Available from: <http://www.youtube.com/watch?v=0uPdkhMVdMQ>.

On deck at CHCF: Betsy Imholz on ambulatory surgery centers [Internet]. Oakland (CA): California Health Care Foundation; 2015 June 9 [cited 2017 February 15]. Video: 4:17 min. Available from: <http://www.youtube.com/watch?v=pCPJBImfh-8>.

Paying for performance in healthcare [Internet]. Washington (DC): Brookings Institution; 2014 June 10 [cited 2017 February 15]. Video: 15:00 min. Available from: <http://www.youtube.com/watch?v=nFmT2IHfIDE>.

Prescription drug abuse among nurses a growing problem [Internet]. Bloomington (IN): WTIU; 2014 August 29 [cited 2017 February 15]. Video: 7:01 min. Available from: <http://www.youtube.com/watch?v=hgR3DpZWYHk>.

Reactions to new single GME accreditation system [Internet]. Chicago (IL): American Osteopathic Association; 2014 July 22 [cited 2017 February 15]. Video: 2:48 min. Available from: <http://www.youtube.com/watch?v=b3eKhKOhSm8>.

The Affordable Care Act and public health [Internet]. Washington (DC): National Association of County and City Health; 2013 August 5 [cited 2017 February 15]. Video: 9:06 min. Available from: <http://www.youtube.com/watch?v=36816tJYzsQ>.

## Appendix B

Example of an assignment letter.

To: Senior Staff, Hillsboro County Health Department.

From: John Snow, MPH, Director, Hillsboro County Health Department.

It was nice seeing you all during our leadership meeting this morning and I am glad that we found some time to review our ongoing strategic planning efforts. During our next biweekly meeting, we will be discussing the general topic of the Affordable Care Act as it relates to our health department. While there are no specific provisions for health departments in the Affordable Care Act per se, there may be some great opportunities that we can take advantage of if we move quickly enough to do so. Attached to this email are some readings and videos that I brought back from a national conference of county and local health officials. These readings and videos provide some general background on the Affordable Care Act, and some more specific details on its provisions relating to health departments and population health. These materials will form the basis of this next project.

The goal of the project is to prepare an oral presentation and written report to the bring to the state to advocate for new population health initiatives that are related to the Affordable Care Act, budget neutral or otherwise cost-effective from our perspective, and likely to be supported by the state authorities. To start, please review the data table from the casebook in your background information on the community. This table describes state health statistics in 2010 in comparison to meeting Health People 2020 National Goals and targets. We need to know where we are doing well, where we are falling behind, and select some specific measures for improvement. Targeted areas need to be problematic but addressable given our resources and political constraints, and be supported by the provisions

of the Affordable Care Act and the priorities of state officials.

Once you have identified relevant health problems from the data table, explain how they will be addressed by our health department, what provisions in the Affordable Care Act support the proposed methods for addressing the health problems, and how the initiatives will be funded along with their perceived effects on our overall budget. Please make sure that your recommendations tie into a broader, more comprehensive strategy relating to some or all the following: insurance enrollment and marketplace navigation, community assessments for hospitals, and delivery of prevention and health care services. Finally, please relate your proposal to considerations pertaining to our current and future organizational structure: whether we should maintain three separate divisions, whether we should have a separate administrative services division, and whether the services proposed in your project should be provided by our department or contracted to other organizations.

## References

- Andersen E, Schiano B. *Teaching with Cases: A Practical Guide*. Boston: Harvard Business School Publishing; 294.
- Chintalapati N, Daruri VSK. Examining the use of YouTube as a learning resource in higher education: scale development and validation of TAM model. *Telemat Inf*. 2016 <http://dx.doi.org/10.1016/j.tele.2016.08.008>.
- Trelease RB. From chalkboard, slides, and paper to e-learning: how computing technologies have transformed anatomical sciences education. *Anat Sci Educ*. 2016;9(6):583–602 <http://dx.doi.org/10.1002/ase.1620>.
- Ahern K. Teaching biochemistry online at Oregon State University. *Biochem Mol Biol Educ*. 2017;45(1):25–30 <http://dx.doi.org/10.1002/bmb.20979>.
- Tay GC, Edwards KD. Dancechemistry: helping students visualize chemistry concepts through dance videos. *J Chem Educ*. 2015;92(11):1956–1959 <http://dx.doi.org/10.1021/acs.jchemed.5b00315>.
- Cox JR. Enhancing student interactions with the instructor and content using pen-based technology, YouTube videos, and virtual conferencing. *Biochem Mol Biol Educ*. 2011;39(1):4–9 <http://dx.doi.org/10.1002/bmb.20443>.
- Vollmer M. Teaching electric fences: the physics behind the brainiac video. *Phys Teach*. 2016;54(8):492–496 <http://dx.doi.org/10.1119/1.4965273>.
- Haase DG. The YouTube makeup class. *Phys Teach*. 2009;47(5):272–273 <http://dx.doi.org/10.1119/1.3116834>.
- Lew EK. Creating a contemporary clerkship curriculum: the flipped classroom model in emergency medicine. *Int J Emerg Med*. 2016;9(1):25 <http://dx.doi.org/10.1186/s12245-016-0123-6>.
- Garside MJ, Fisher JM, Blundell AG, Gordon AL. The development and evaluation of mini-gems - short, focused, online e-learning videos in geriatric medicine. *Gerontol Geriatr Educ*. 2016;1–12 <http://dx.doi.org/10.1080/02701960.2016.1165217>.
- Lai CY. Training nursing students' communication skills with online video peer assessment. *Comput Educ*. 2016;97:21–30 <http://dx.doi.org/10.1016/j.compedu.2016.02.017>.
- McCormick MJ, de Slavy JR, Fuller B. Embracing technology: using an unfolding case simulation to enhance nursing students' learning about parkinson disease. *J Neurosci Nurs*. 2013;45(1):14–20 <http://dx.doi.org/10.1097/JNN.0b013e318275b220>.
- Borgersen NJ, Henriksen MJ, Konge L, Sorensen TL, Thomsen AS, Subhi Y. Direct ophthalmoscopy on YouTube: analysis of instructional YouTube videos' content and approach to visualization. *Clin Ophthalmol*. 2016;10:1535–1541 <http://dx.doi.org/10.2147/OPTH.S111648>.
- Giuliano CA, Moser LR. Evaluation of a flipped drug literature evaluation course. *Am J Pharm Educ*. 2016;80(4):66 <http://dx.doi.org/10.5688/ajpe80466>.
- Cater SW, Krishnan L, Grimm L, Garibaldi B, Green I. Developing an introductory radiology clerkship at Perdana University Graduate School of Medicine in Kuala Lumpur, Malaysia. *Health Prof Educ*. 2017 <http://dx.doi.org/10.1016/j.hpe.2017.02.004>.
- Rittberg R, Dissanayake T, Katz SJ. A qualitative analysis of methotrexate self-injection education videos on YouTube. *Clin Rheumatol*. 2016;35(5):1329–1333 <http://dx.doi.org/10.1007/s10067-015-2910-5>.
- Gao X, Wong LM, Chow DY, Law XJ, Ching LY. Learning clinical procedures through internet visual resources: a qualitative study amongst undergraduate students. *Eur J Dent Educ*. 2015;19(1):38–43 <http://dx.doi.org/10.1111/eje.12099>.
- Topps D, Helmer J, Ellaway R. YouTube as a platform for publishing clinical skills training videos. *Acad Med*. 2013;88(2):192–197 <http://dx.doi.org/10.1097/ACM.0b013e31827c5352>.
- Hund L, Getrich C. A pilot study of short computing video tutorials in a graduate public health biostatistics course. *J Stat Educ*. 2015;23(2).
- Greenberg CJ, Wang L. Building health literacy among an urban teenage population by creating online health videos for public and school health curriculum use. *J Consum Health Internet*. 2012;16(2):135–146 <http://dx.doi.org/10.1080/15398285.2012.673459>.
- Hekler EB, Gardner CD, Robinson TN. Effects of a college course about food and society on students' eating behaviors. *Am J Prev Med*. 2010;38(5):543–547 <http://dx.doi.org/10.1016/j.amepre.2010.01.026>.
- Hodges MG, Kulinna PH, van der Mars H, Lee C. Knowledge in action: fitness lesson segments that teach health-related fitness in elementary physical education. *J Teach Phys Educ*. 2016;35(1):16–26 <http://dx.doi.org/10.1123/jtpe.2014-0102>.
- Al-Bahrani A, Patel D, Sheridan TN. Engaging students using social media: the students' perspective. *Int Rev Econ Educ*. 2015;19:36–50 <http://dx.doi.org/10.1016/j.iree.2015.06.001>.
- Meseguer-Martinez A, Ros-Galvez A, Rosa-Garcia A. Satisfaction with online teaching videos: a quantitative approach. *Innov Educ Teach Int*. 2016;54(1):62–67 <http://dx.doi.org/10.1080/14703297.2016.1143859>.
- Wankel C. Reframing management education with social media. *Org Manag J*. 2016;13(4):202–213 <http://dx.doi.org/10.1080/15416518.2016.1253944>.
- Payne NJ, Campbell C, Bal AS, Piercy N. Placing a hand in the fire. *J Mark Educ*. 2011;33(2):204–216 <http://dx.doi.org/10.1177/0273475311410853>.
- Holtzblatt M, Tschakert N. Expanding your accounting classroom with digital video technology. *J Account Educ*. 2011;29(2-3):100–121 <http://dx.doi.org/10.1016/j.jaccedu.2011.10.003>.

28. Mergel I. The public manager 2.0: preparing the social media generation for a networked workplace. *J Public Aff Educ*. 2012;18(3):467–492.
29. Pai A. Case study: a picture worth a thousand words? Making a case for video case studies. *J Coll Sci Teach*. 2014;043(04): 63–67 [http://dx.doi.org/10.2505/4/jcst14\\_043\\_04\\_63](http://dx.doi.org/10.2505/4/jcst14_043_04_63).
30. Bond J, Wang YC, Sankar CS, Raju PK, Le Q. Female and minority students benefit from use of multimedia case studies. *Int J Eng Educ*. 2014;30(2):343–359.
31. Olson JK, Bruxvoort CN, Haar AJ. The impact of video case content on preservice elementary teachers' decision-making and conceptions of effective science teaching. *J Res Sci Teach*. 2016;53(10):1500–1523 <http://dx.doi.org/10.1002/tea.21335>.
32. Christ T, Arya P, Chiu MM. Video use in teacher education: an international survey of practices. *Teach Teach Educ*. 2017;63: 22–35 <http://dx.doi.org/10.1016/j.tate.2016.12.005>.
33. Minocha S, Clarke T. Role of social software tools in education: a literature review. *Educ Train*. 2009;51(5/6):353–369 <http://dx.doi.org/10.1080/00400910910987174>.
34. Amgad M, AlFaar AS. Integrating web 2.0 in clinical research education in a developing country. *J Cancer Educ*. 2014;29(3): 536–540 <http://dx.doi.org/10.1007/s13187-013-0595-5>.
35. Orús C, Barlés MJ, Belanche D, Casaló L, Fraj E, Gurrea R. The effects of learner-generated videos for YouTube on learning outcomes and satisfaction. *Comput Educ*. 2016;95:254–269 <http://dx.doi.org/10.1016/j.compedu.2016.01.007>.
36. Berk RA. Multimedia teaching with video clips: TV, movies, YouTube, and MTVU in the college classroom. *Int J Technol Teach Learn*. 2009;5(1):1–21.
37. Bumpus MA. Using motion pictures to teach management: refocusing the camera lens through the infusion approach to diversity. *J Manag Educ*. 2005;29(6):792–815 <http://dx.doi.org/10.1177/1052562905277183>.
38. Allen IE, Seaman J, Lederman D, Jaschik S. *Digital faculty: Professors, Teaching and Technology [Internet]*. Washington, DC: U.S. Department of Education [cited 2017 Feb 20]. 58 p. Available from: (<http://files.eric.ed.gov/fulltext/ED535215.pdf>); 2012.
39. Hughes M, Hughes P, Hodgkinson IR. In pursuit of a 'whole-brain' approach to undergraduate teaching: implications of the herrmann brain dominance model. *Stud High Educ*. 2016; 1–17 <http://dx.doi.org/10.1080/03075079.2016.1152463>.
40. Sage M. Distance guest speakers in online synchronous classrooms: practical and legal considerations. *J Teach Soc Work*. 2013;33(4-5): 385–392 <http://dx.doi.org/10.1080/08841233.2013.831802>.
41. van Hoek R, Godsell J, Harrison A. Embedding “insights from industry” in supply chain programmes: the role of guest lecturers. *Supply Chain Manag*. 2011;16(2):142–147 <http://dx.doi.org/10.1108/13598541111115383>.
42. Sortedahl CK, Imhoff H. Perspectives from the field: bringing nurse leaders into the classroom. *Nurs Educ Persp*. 2016;37(2): 113–114 <http://dx.doi.org/10.5480/14-1385>.
43. Sendall MC, Domocol ML. Journalling and public health education: thinking about reflecting.... *Educ Train*. 2013;55(1): 52–68 <http://dx.doi.org/10.1108/00400911311294997>.
44. Fawcett SE, Fawcett AM. The “living” case: structuring storytelling to increase student interest, interaction, and learning. *Decis Sci J Innov Educ*. 2011;9(2):287–298 <http://dx.doi.org/10.1111/j.1540-4609.2011.00307.x>.
45. Cheng HM, Hoe SZ. Update on the growth of the international intermedical school physiology quiz. *Adv Physiol Educ*. 2016;40 (2):198–199 <http://dx.doi.org/10.1152/advan.00186.2015>.
46. Levasseur DG, Kanan Sawyer J. Pedagogy meets PowerPoint: a research review of the effects of computer-generated slides in the classroom. *Rev Commun*. 2006;6(1-2):101–123 <http://dx.doi.org/10.1080/15358590600763383>.
47. Persaud N. Questionable content of an industry-supported medical school lecture series: a case study. *J Med Ethics*. 2014;40(6): 414–418 <http://dx.doi.org/10.1136/medethics-2013-101343>.
48. Mottner S. Service-learning in a nonprofit marketing course: a comparative case of pedagogical tools. *J Nonprofit Publ Sect Mark*. 2010;22(3):231–245 <http://dx.doi.org/10.1080/10495142.2010.483274>.
49. Harvard Business Publishing. *Case Method Teaching [Internet]* [cited 2017 Feb 20]. Available from: (<http://cb.hbsp.harvard.edu/cbmp/pages/content/casemethodteaching/>); 2016.
50. Cadieux DC, Lingard L, Kwiatkowski D, Van Deven T, Bryant M, Tithecott G. Challenges in translation: lessons from using business pedagogy to teach leadership in undergraduate medicine. *Teach Learn Med*. 2016;1–9 <http://dx.doi.org/10.1080/10401334.2016.1237361>.
51. Seidel LF, Lewis JB. *The Middleboro Casebook: Healthcare Strategy and Operations*. Chicago: Health Administration Press; 296.
52. Freeman S, Eddy SL, McDonough M, Smith MK, Okoroafor N, Jordt, H, et al. Active learning increases student performance in science, engineering, and mathematics. *Proc Natl Acad Sci USA*. 2014;111(23): 8410–8415 <http://dx.doi.org/10.1073/pnas.1319030111>.
53. Snyder RA. Let's burn them all: reflections on the learning-inhibitory nature of introduction to management and introduction to organizational behavior textbooks. *J Manag Educ*. 2013;38(5): 733–758 <http://dx.doi.org/10.1177/1052562913502481>.
54. Cellucci LW, Wiggins C. *Essential Techniques for Healthcare Managers*. Chicago: Health Administration Press; 241.
55. Khan S. *The One World Schoolhouse: Education Reimagined: Twelve*, Oct 2. 272 p; 2012.
56. Khan S. *Khan Academy [Internet]*. 2007 [updated 2017; cited 2017 Feb 20]. Available from: (<http://www.khanacademy.org/>).
57. Frost L, Rudd G, Ramoutar R, Davis CM, Beharry Z, Dubetz, T, et al. A case study for teaching quantitative biochemical buffer problems using group work and “Khan style” videos. *J Coll Sci Teach*. 2014;044(01):34–39 [http://dx.doi.org/10.2505/4/jcst14\\_044\\_01\\_34](http://dx.doi.org/10.2505/4/jcst14_044_01_34).
58. Herreid CF, Schiller NA. Case studies and the flipped classroom. *J Coll Sci Teach*. 2013;42(5):62–66.
59. Garvin DA. Teaching executives and teaching MBAs: reflections on the case method. *Acad Manag Learn Educ*. 2007;6(3): 364–374 <http://dx.doi.org/10.5465/AMLE.2007.26361626>.
60. Watson S, Sutton JM. An examination of the effectiveness of case method teaching online. *J Manag Educ*. 2012;36(6): 802–821 <http://dx.doi.org/10.1177/1052562912445281>.
61. Brennan R., Edited by Assistant Editor Michael I. Using case studies in university-level marketing education. *Mark Intell Plann*; 27 (4):467–473. <http://dx.doi.org/10.1108/02634500910964038>; 2009.
62. Bajada C, Clarke T, Trayler R. Interdisciplinary business education: curriculum through collaboration. *Educ Train*. 2013;55(4/5): 385–402 <http://dx.doi.org/10.1108/00400911311326027>.
63. Benton SL, Li D, Gross A, Pallett WH, Webster RJ. Transactional distance and student ratings in online college courses. *Am J Distance Educ*. 2013;27(4):207–217 <http://dx.doi.org/10.1080/08923647.2013.838458>.

64. Nowell C, Gale LR, Kerkvliet J. Non-response bias in student evaluations of teaching. *Int Rev Econ Educ.* 2014;17: 30–38 <http://dx.doi.org/10.1016/j.iree.2014.05.002>.
65. Feist M, Ciccarelli M, McFerron BA, Molleston JP. Methods and effects of a case-based pediatric gastroenterology online curriculum. *J Pediatr Gastroenterol Nutr.* 2013;56(2):161–165 <http://dx.doi.org/10.1097/MPG.0b013e31825677d7>.
66. Spooren P, Brockx B, Mortelmans D. On the validity of student evaluation of teaching: the state of the art. *Rev Educ Res.* 2013;83 (4):598–642 <http://dx.doi.org/10.3102/0034654313496870>.
67. O'Flaherty J, Phillips C. The use of flipped classrooms in higher education: a scoping review. *Internet High Educ.* 2015;25: 85–95 <http://dx.doi.org/10.1016/j.iheduc.2015.02.002>.
68. Schaper E, Ehlers JP, Dilly M, Crowther E. Using YouTube to share teaching resources. *J Am Vet Med Assoc.* 2014;245(4): 372–373 <http://dx.doi.org/10.2460/javma.245.4.372>.
69. Duncan I, Yarwood-Ross L, Haigh C. YouTube as a source of clinical skills education. *Nurse Educ Today.* 2013;33(12): 1576–1580 <http://dx.doi.org/10.1016/j.nedt.2012.12.013>.
70. Fong J, Au T, Cheung SKS. Hybrid learning with archived lectures and tutorials. *Int J Innov Learn.* 2013;13(4): 421 <http://dx.doi.org/10.1504/ijil.2013.054237>.
71. Tainter CR, Wong NL, Bittner EA. Innovative strategies in critical care education. *J Crit Care.* 2015;30(3):550–556 <http://dx.doi.org/10.1016/j.jcrc.2015.02.001>.