

Practice-Based Teaching and Public Health Training: Bringing Real-World Projects to the Classroom to Teach Intervention Planning and Communication Strategies

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Abstract

Master of Public Health (MPH) courses can strengthen competency-based education by having students work on real-world problems in collaboration with public health agencies. This article describes practice-based teaching (PBT) and illustrates its importance for coursework in intervention planning and health communications. With a PBT course, community agencies benefit by receiving high-quality deliverables at no cost, such as intervention plans, policy proposals, and communication strategies. For faculty, PBT results in potentially richer practice and scholarship opportunities, plus a deeper understanding of local public health issues and exposure to new topics. Importantly, PBT allows students to expand their professional networks, explore potential careers, obtain teamwork experience, and develop a broader set of professional skills. PBT in public health training is a pedagogy that has immense benefit to students, public health agencies, communities, and faculty, particularly in the areas of intervention planning and communication, which often require innovative solutions and thorough understanding of various modes of technology and social media to effectively address a public health problem. The example presented in this article demonstrates the immense utility of the pedagogy in public health. With the growing demand for skilled public health workers, PBT warrants more extensive application in schools of public health and specifically in courses focused on basic skills for developing and implementing programs and policies to address public health problems.

Keywords

academic and community collaborations, competency-based education, practice-based teaching, public health training

In 1988, the Institute of Medicine (IOM) recommended that schools of public health in the United States improve student training for practice-based work through collaborations with local public health practitioners (IOM, Committee for the Study of the Future of Public Health, & Division of Health Care Services, 1988). Ensuring that Master of Public Health (MPH) courses have students work on real-world problems is even more essential now (Hilliard & Boulton, 2012), with the move to competency-based education (Association of Schools and Programs of Public Health, 2013; Council on Education for Public Health, 2011) and incoming students who are younger and have less professional experience (Kennedy & Baker, 2005).

One approach to ensuring student competency achievement through practical application is practice-based teaching (PBT), which is fundamental to nursing

and medical education (Koh, 2002; Wass, 2011) but less often used in public health education (Hartwig, Pham, & Anderson, 2004). PBT is best accomplished through formal relationships between schools and public health agencies, as schools alone cannot fully simulate real-world experience in class (Frenk et al., 2010). PBT can be resource- and time-intensive for faculty and others, but its potential for training a highly prepared workforce makes it a worthwhile investment.

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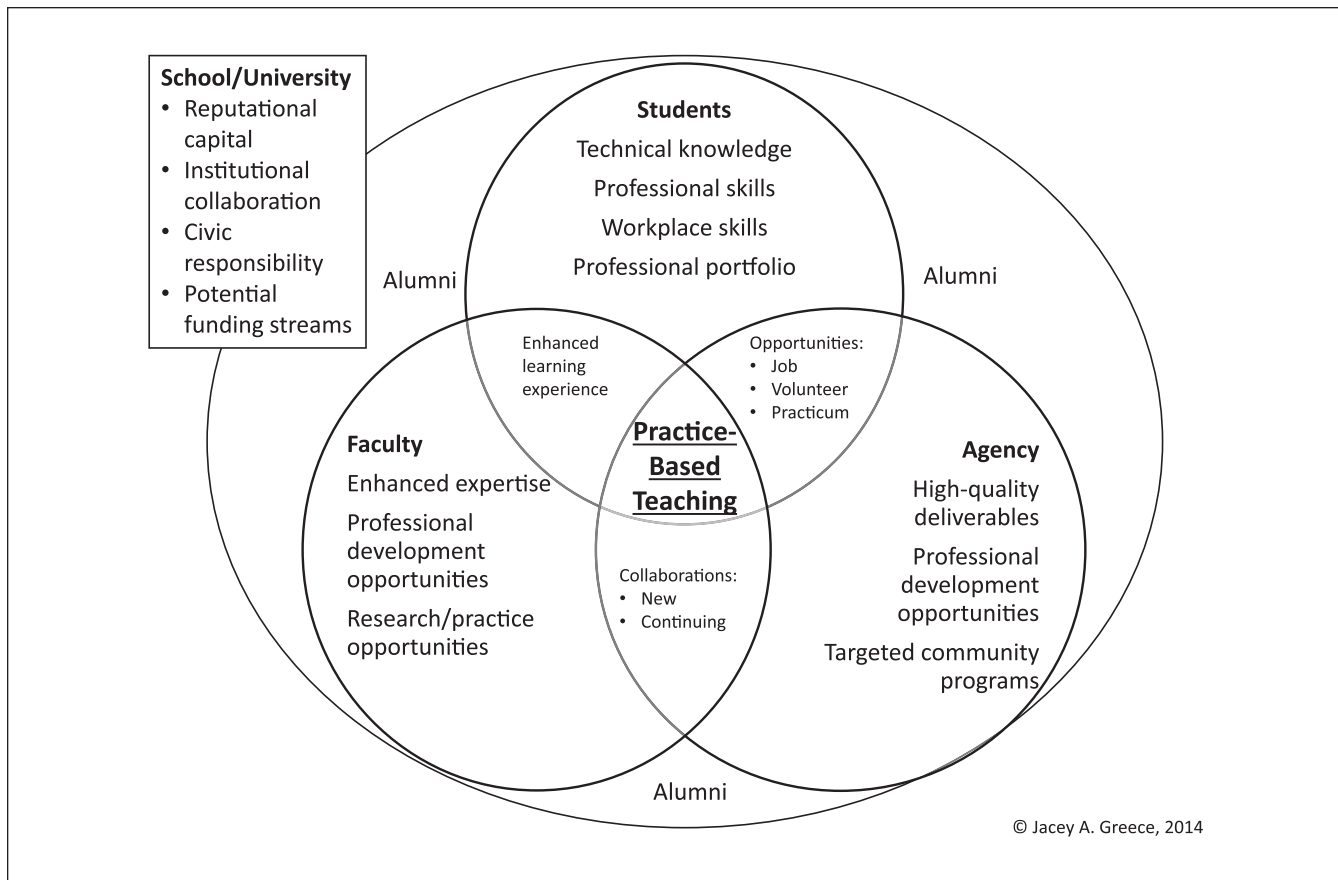


Figure 1. Stakeholders and outcomes of practice-based teaching.

The utility of PBT is even more profound in disciplines that experience rapid and changing methodology. For example, students' lived experience with various modes of technology and social media platforms means that they can generate innovative ideas for both public health programs and the communication strategies needed to support those programs. This article describes PBT methodology and illustrates its use in a course offered at a graduate school of public health, Communication Strategies for Public Health (SB806).

Method

Utility of Practice-Based Teaching in Public Health Curricula

PBT can result in substantial benefits for students, faculty, participating agencies, and the local communities they serve (Neri, Ballman, Lu, Greenlund, & Grunbaum, 2014). Exposure to real-life, practice-based experience is essential in training competent and skilled professionals (Koo & Miner, 2010). In addition to teaching course-specific competencies, PBT allows students to expand their professional networks, explore potential careers, obtain teamwork experience, and develop a broader set of

professional skills (Hartwig et al., 2004). For faculty, PBT results in potentially richer practice and scholarship opportunities with local agencies (Kegler et al., 2006), plus a deeper understanding of local public health issues and exposure to new topics (see Figure 1).

Community health and social service agencies benefit by receiving high-quality deliverables at no cost, such as needs assessment reports, intervention plans, policy proposals, and evaluation plans. Ties to academic scholars increase their access to current research (Breny, 2012; Kegler et al., 2006), expertise in multiple fields, and new methodologies and technologies. Moreover, trained students are better qualified for potential volunteer engagement or employment with their sponsoring agency. Finally, PBT can provide agencies with inventive approaches for meeting their organizational, programmatic, and policy objectives.

PBT does present challenges (Kegler et al., 2006). Practice-based courses involve substantial work outside of class, and students' personal, cocurricular, and work-related commitments can impose scheduling constraints. Inexperienced students may need guidance to be successful in professional settings (Hartwig et al., 2004). Likewise, the agency's competing priorities, which are sometimes unknown at the start of the collaboration, can affect the

course's time line. In addition, the level of agency staff interest and subsequent engagement can affect interactions with the students, investment in the course collaboration, and ultimately the success, including depth and utility, of the final deliverables. Course preparation and open communication with the agencies can mitigate some of these issues, but problems may still arise that faculty oversight cannot rectify and instead require the course instructor to negotiate a solution. The payoff, however, is that PBT enables students to acquire and apply new competencies beyond what regular courses can accomplish.

Training Students in Intervention Planning and Communications

Communication Strategies for Public Health: SB806 is an advanced intervention planning course focused on changing health behavior. Its foundational premise is that, with some exceptions, a communication campaign should be not a standalone effort but part of a comprehensive intervention. Likewise, public health interventions cannot achieve their full potential without an integrated communication strategy.

SB806 leads students through a stepwise planning process (Bartholomew Eldredge et al., 2016). In some cases, interventions can directly address a target population's knowledge, attitudes, behavioral skills, self-efficacy, and other individual-level determinants of behavior. Educational programs, including media campaigns, are this type of intervention. In other cases, interventions focused on environmental-level determinants can be more effective and require persuading key influencers—organizational managers, community leaders, or policy makers—to take action. Communications play a key role in building the case for new programs or policies and then supporting those initiatives once enacted. To be effective, students need to master several communications content preparation and delivery methods, such as the traditional communications—that is, scheduled news events, news releases, feature story pitch letters, op-ed commentaries, letters to the editor, broadcast interviews, fact sheets, infographics, and print, radio, and television advertising—and new media—namely, websites, mobile health apps, online blogs, social media postings, podcasts, and video programming, as well as a host of third-tier communication. Teaching a combination of traditional communications and new media is important in public health education since dissemination of messages and information changes with the rapid introduction of new types of media. Training students to be prepared for, adaptable to, and competent in all forms of media is essential; choice of media to support an intervention depends on the current technology, the target population of the communication, the resources of the agency, and the readiness of adoption, all of which are never constant or guaranteed.

In sum, public health practitioners must be able to design and execute an intervention plan, plus have the skills to develop and deliver a communication strategy that is theory-driven, science-based, and practicable. Learning by doing is the best way to acquire the requisite skills.

Accordingly, SB806 became a PBT course in 2013. It meets once a week for 3 hours during a 14-week semester, with a maximum of 30 students. Students receive a listing of all available problem statements and collaborating agency descriptions before the first class and rank their top choices. Depending on the semester this can vary from one problem statement from one agency to six problem statements across six different agencies, with some agencies presenting more than one problem statement. Working in groups of three to five, students prepare a series of written assignments (e.g., detailed scope of the problem, literature review of solutions, and measurable intervention objectives; intervention description and detailed plan with budget, logic model, and time line; and communication strategy with media executions and updated time line) and then deliver an oral 30-minute presentation to introduce their plan. Students learn basic needs assessment, intervention frameworks and design, and communication and media concepts through assigned readings, lectures, and case study discussions, followed by skill-building exercises. There is dedicated class time for group work, plus in-person consultations with the agency and the course instructor (see Table 1).

Course Plan for the Case Study

For Spring 2016, the collaborating agency was a public health agency (heretofore "Agency"). The Agency's priority area was staving e-cigarette initiation among seventh and eighth graders in Boston area communities they serve. A two-paragraph problem statement summarized the research available in January 2016, noting the rapid increase in e-cigarette use in the past 3 years (Arrazola et al., 2015). Youth e-cigarette use raises two health concerns: inhalation of questionable substances in e-cigarettes and the potentially subsequent initiation of combustible (mainstream) tobacco use. Students worked in two groups of three to address the Agency's problem statement. Typical of PBT courses, the course plan (see Table 1) had to be adjusted, sometimes resulting in the students doing additional work, but all planned course activities and assignments were completed.

Results

Course Deliverables

Each group produced three papers (1) *problem assessment*—overview of the health issue, target population, behavioral objective, and a literature review of best practices; (2) *intervention plan*—intervention objectives and

Table 1. Communication Strategies for Public Health (SB806) Course Map and Activities.

Class	Topic	Specific activities
Class 1	a. Overview of the Course b. Introduction by Public Health Agency (PHA) c. Skill Building: Consultation Techniques d. Skill Building: Group Work	a. Lecture on intervention planning and strategic communication b. PHA introduces the problem statement and provides context c. Presentation and role-play to illustrate the 10 basic principles of public health consulting d. Students develop group contracts to set expectations for how they will work together
Class 2	a. Theory-Driven Objectives b. Skill Building: Literature Reviews	a. Lecture, discussion, and case study on creating intervention objectives b. Tutorial from a librarian on accessing relevant literature and communication materials
Class 3	a. Logic Models b. Q&A with PHA c. Skill Building: Objectives	a. Lecture and discussion on creating theory-driven logic models b. Group consultations with the PHA to clarify the problem statement and discuss literature review c. Groups brainstorm and draft intervention objectives
Class 4	a. Strategic Communication b. Skill Building: Writing for the Media	a. Lecture, discussion, and case study on strategic use of communication b. Using a case study, students develop communication strategies
Class 5	a. Group Work b. Consultations (Group) c. Skill Building: Writing and Peer Review	a. Groups work on needs assessment and literature review of best practices b. Groups meet with the teaching team to review their findings and plans for moving forward c. Pairs of students review each other's written work and participate in a peer review exercise
Class 6	a. Grant Writing and Budgets b. Skill Building: Preparing a Budget	a. Lecture on grant writing and constructing a budget b. Students prepare a sample budget, based on a case study, to present and discuss
Class 7	a. Strategic Communication (continued) b. Skill Building: Logic Models	a. Continuation of case study to develop communication strategies b. Using a case study, students brainstorm the components of a logic model
Class 8	a. Media Executions b. Presentation to PHA c. Skill Building: Communication Plans	a. Lecture on various media executions to advance a communication strategy b. Groups present three intervention ideas to the PHA and choose an intervention plan c. Groups begin to formulate different communication strategies
Class 9	a. Class Informal Presentations b. Skill Building: Presentations	a. Groups present their progress to date and get class feedback on their interventions b. Groups review and discuss effective presentation strategies
Class 10	a. Social Media b. Group Work c. Consultations (Group)	a. Lecture and discussion on social media and its utility for public health work b. Groups work on intervention plan and budget c. Groups meet with the teaching team to review their intervention plan
Class 11	a. Media Access and mHealth b. Q&A with PHA	a. Lecture, discussion, and case study on mHealth strategies b. Group consultations with the PHA to clarify the proposed communication strategy
Class 12	a. Consultations (Individual) b. Skill Building: Media Executions	a. Individual students meet with the teaching team to discuss their media executions b. Students continue to work on their media executions and receive feedback
Class 13	a. Sustainability and Evaluation b. Skill Building: Evaluating Your Projects c. Group Work: Preparing for Presentation	a. Lecture and discussion on sustainability and evaluation of a public health intervention b. Groups outline an evaluation plan for their proposed intervention c. Groups work on their final presentations to the PHA
Class 14	a. Student Presentations to PHA	a. Groups present to the PHA and any invited stakeholders their work from the semester

a set of evidence-informed strategies to address those objectives; and (3) *communication plan* to support the intervention, including a creative brief, a logic model, a time line, and six media executions.

One group developed a middle school intervention for an Agency's community. This evidence-informed intervention included short educational sessions for health classes, a peer leadership program, and a Facebook site to disseminate information and share ideas among students. The communication plan focused on facilitating the school administration's adoption of the program, promoting it with students, and recruiting peer leaders. The other group developed an e-cigarette curriculum and a mobile app concept with wire frame to supplement a Boys & Girls Club's life skills training program for middle school-aged youth, plus a plan for training a local youth group to provide onsite mentorship. The communication strategies focused on building community support, recruiting the local youth group, and promoting the new curriculum with prospective participants.

The students presented their projects to Agency staff, 12 stakeholders from the public health agency-served communities, and the University's School of Public Health faculty and staff. The presentations generated a rich discussion, with a focus on the proposed communication strategies.

Student-Centered Outcomes

All outcomes were assessed through an independent, unbiased evaluation of the course that is part of a larger PBT evaluation effort, which is guided by a logic model of stakeholders' short-, intermediate-, and long-term outcomes and accompanying evaluation questions. Students completed a pre- and postcourse survey to assess changes in technical skills required by the course objectives and professional skills addressed through use of PBT as well as after the semester to determine application of the competencies. Students also participated in a voluntary focus group to explore themes that emerged from the survey. At the beginning of the course, all students reported having little or no ability in consulting with clients, designing communication plans, and writing for the media but afterward reported substantial improvements in these areas. Despite having prior experience, all students reported improvements in conducting literature reviews, outlining program objectives, and developing logic models. Most students also reported prior experience in budget development, program evaluation, and giving presentations, but they claimed only modest improvements, consistent with less class time being spent on these skills.

All students stated that working with a client had served to enhance their leadership, teamwork, and professional skills, while also deepening their appreciation for the field of public health and helping clarify their

career plans, build a professional network, better prepare themselves for the workforce, and therefore increase their marketability. PBT, they said, improved the quality of their work and led to a deeper level of learning that will benefit them in their careers.

Agency-Centered Outcomes

The Agency benefited directly from the students' work by receiving in-depth plans for the proposed intervention. At the end of the semester stakeholders at the Agency were interviewed on their collaboration with the course to assess their immediate satisfaction. Several months after the semester, the Agency stakeholders were again queried on the satisfaction and utility of the deliverables to both them and the surrounding community. The program director stated that the extent "to which students developed the interventions and supporting materials—such as time lines, budgets, lesson plan outlines, and more—was phenomenal," which meant that the Agency could "pick up the materials and start thinking about implementation in a very practical way." The process of collaboration, though "intense," was "well worth it." In addition, a stakeholder at the middle school of focus for one intervention reported ". . . looking forward to implementing the program beginning this fall."

The collaboration also taught the client the importance of communication in supporting a public health intervention, to reach not only the target population but also stakeholders entrusted with adopting and implementing the intervention plan. The novel uses of media that the students proposed were fresh and generated excited reactions from the Agency stakeholders. As the Agency program director stated, "The students' work informed and motivated me to think more about appropriate and effective uses of new technologies and social media."

Having the Agency provide a problem statement allowed students to begin their work with a solid foundation based on the Agency's focus group research, white papers, and other resources. The program director noted the importance of this step: "The collaborating agency has to be invested in the problem already and needs to have a foundation built."

In this particular case, the client was not the agency that ultimately would implement the proposed intervention and communication strategy. The program director reported that the students' work served the Agency well as they collaborated with the implementing agencies to refine their plans and stated, "My work with the students was the inspiration for what finally has been implemented. It inspired the stakeholders . . ."

"It has been a great collaboration for us," the Agency director concluded, "and I hope we can continue to find ways to work collaboratively in helping to train the next generation of public health professionals."

Faculty-Centered Outcomes

A PBT course is resource-intensive to design and implement, but beneficial outcomes of PBT to faculty are evidenced by ongoing collaborations with the client and use of high-quality deliverables as example outputs of PBT courses. The collaboration with the Agency was established in summer 2014 after some ongoing conversations to arrive at a mutually beneficial collaboration, and that semester's rewarding experience set the stage for the subsequent semesters. The Agency was again one of several clients for Spring 2017. Additionally, having example deliverables in hand has made it easier to attract collaborators from other agencies. After working successfully with the school, agencies can more easily be approached about sponsoring student practicums, serving as research sites, or hiring the school's graduates. With SB806's example, other school faculty are now expressing greater interest in bringing PBT to their courses.

Discussion

Each semester has provided lessons for improving SB806 as a PBT course. First, networking with prospective agencies should begin 3 months before the course's start date so that agencies can assess their readiness, select priority projects, and schedule their time, while the instructor prepares the syllabus, identifies topic-specific guest speakers, and confirms that the agencies' problem statements are rich enough to inspire creative student work. This time frame is critical when there are multiple collaborating agencies.

As with any real-world projects, students, agencies, and instructors should expect schedule changes as the work unfolds. This is one reason time is set aside during class for group work: It is an easy activity to curtail in order to cover postponed course material. Clients may also be called on at unplanned times. For example, before the third class, one group proposed working with a different target community, after which the Agency acted quickly to schedule interviews with key stakeholders.

Not every media-related skill that students acquire is applied to their project. For example, one group conceptualized a social media app for a youth audience, but during other semesters, the target population might not benefit from using social media. Hence, students should apply these skills through case studies or in-class exercises to ensure that they develop the full set of course competencies.

The collaborating agency receives all deliverables for their use. A potential implementation barrier occurs when that agency is not ultimately responsible for implementing the proposed program, as was the case here.

Obtaining advance commitments from the implementing organizations is essential.

Conclusion

With the growing demand for skilled public health workers (Association of Schools and Programs of Public Health, 2013), PBT warrants more extensive application in schools of public health both to train students and to infuse the field with innovative solutions. To do this successfully, existing courses should be revised to use PBT, if appropriate, and new courses developed with PBT in mind; faculty should be trained on the design and implementation of the pedagogy; schools should monitor and evaluate the effectiveness of PBT in preparing students for the field and the outcomes that result from the collaboration; and resources (e.g., faculty time, teaching assistants, meeting space, and technology trainings) should be allocated to ensure appropriate supports for a positive collaboration. Forging academic–community partnerships through PBT benefits students and faculty, the participating agencies, and the local communities they serve.

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