Cultivating Health Policy Analysis and Communication Skills in Undergraduate Public Health Education: An Active Learning Approach

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Abstract
Public health programs are increasingly offering health policy content to meet workforce demand for public health professionals with health policy analysis and communication skills. Undergraduate public health education in health policy and related curriculum is lacking. Existing work describes service- and experiential learning approaches, which may not be feasible in large courses or public health programs with limited administrative or financial resources. This article describes health policy curriculum, learning objectives, and course activities (i.e., individual writing assignment, mock policy debate, and policy analysis exercise) that integrate an active learning approach and use simulation to develop policy analysis and communication skills in an undergraduate classroom setting. An active learning approach can increase teaching effectiveness, critical thinking, peer interaction, and student engagement to cultivate these applied skills. The described curriculum has been used in various modalities (in-person, hybrid, and remote) with positive reception in a public research university with a high percentage of first-generation college students. Student course evaluations and an independent assessment of the policy analysis exercise reflect high student interest, engagement, problem solving, satisfaction, perceived benefits, and application of policy analysis and communication skills, providing support for teaching health policy curriculum to undergraduate students using an active learning approach. The discussion includes strategies to address resistance by public health instructors and students to using active learning techniques.

Keywords
active learning, curriculum, health policy, undergraduate public health education

Health policy curriculum can help public health programs produce professionals with adequate health policy knowledge, training, and skills in the field (Brandert et al., 2014; Gakh, 2019; Heiman et al., 2015). While the public health field has long recognized the importance of health policy training for public health education, undergraduate and graduate education in health policy and curriculum is lacking (Heiman et al., 2015; Institute of Medicine, 2003).

Public health practitioners have expressed interest in learning health policy content and cultivating specific policy skills. A study with 70 health policy leaders and practitioners ranked the intersection of policy and politics as a highly important training component and reported effective communication skills as the most critical skill for personal and leadership development (Bayer et al., 2017). Discomfort with policy is a barrier to health policy education (Gakh, 2019), and existing health policy pedagogy literature is focused on graduate-level education for public health, medical, and nursing students and practitioners (Gakh, 2019; Heiman et al., 2015). Furthermore, most of this work describes experiential or service-learning components (Cohen & Milone-Nuzzo, 2001; DiCenso et al., 2012; Heiman et al., 2015; O’Brien-Larivee, 2011; Seifer & Kahn, 1994; Thomas & Shelton, 1994), which may not be feasible in large classes at public universities or requires external partnerships.

There is a need to develop undergraduate health policy curriculum that can be applied in classroom (or
hybrid/remote modes) for undergraduate students to practice health policy analysis and communication skills. Integrating an active learning approach could lead to multiple benefits, including increased critical thinking, problem solving, peer interaction, and student engagement (Yeatts, 2014). Active learning is an instructional method that engages students in the learning process to produce meaningful learning experiences with student activity and interaction (Prince, 2004). Many active learning techniques are aligned with research-based principles for teaching, such as developing mastery of skills and information, providing supportive environments to cultivate peer learning, and promoting self-directed learning (Ambrose et al., 2010).

This article describes health policy curriculum and two course activities with collaborative learning (group-based) components that use an active learning approach. This curriculum has been implemented for over 2 years in a large public research university with positive reception. The material can be replicated in various modalities (in-person, hybrid, or online) to advance health policy and communication skills in undergraduate public health education programs.

Setting and Population

The setting is a large public research university in California with over 9,000 undergraduate and graduate students (92% undergraduate) and designated as a Hispanic-Serving Institution. The undergraduate student population represents a high percentage of students from historically underrepresented groups—75% are first-generation college students and more than 60% are eligible for need-based federal financial assistance.

Health Policy Curriculum

The Council on Education for Public Health provides several communication competencies for undergraduate and graduate public health education, including the ability to communicate public health information in both written and oral form (Valladares et al., 2019). Successful completion of the health policy curriculum demonstrates foundational competencies for a general public health education at the undergraduate level, and the course activities fulfill competencies listed under policy in public health or communication.

The course activities described are part of a health policy course in an undergraduate public health program designed to provide upper-level undergraduate students with an overview of health policy in the United States. Students learn about local, state, and federal policies to improve population health outcomes, including health care policy (e.g., Medicare, Medicaid) and public health policy to promote health, prevent disease, and address health disparities. The course employs an interdisciplinary approach to describe federal and state health policy processes and explores political, social, and economic determinants that shape the health care system and public health policy. The course presents five themes: Overview of U.S. Health Policy, National Political Institutions, Role of Stakeholders, Federal and State Programs and Policies, and Select Health Policy Issues. Course materials include a Health Politics and Policy textbook (Morone & Ehlke, 2014), articles, and media. While the curriculum was designed for in-person instruction, the curriculum was adapted to hybrid and remote instruction in spring and fall 2020, respectively, during the COVID-19 pandemic.

Course Activities and Learning Objectives

The two course activities listed next have been used for over 2 years in class sizes ranging from 40 to 120 students. Table 1 lists these activities, specific learning objectives, and recommended course size based on the author’s experience.

At the individual level, students learn to identify and describe current legislative health policy topics and practice integrating public health information to support a policy argument. The group-based components use collaborative learning, where students work with their peers in a group toward a common objective (Prince, 2004). Students practice critically evaluating different policy positions and collaborate to effectively communicate a cohesive set of oral arguments. These activities promote problem solving, critical thinking, and communication skills, and encourage students to identify, apply, and evaluate important concepts in public health and health care policy.

Next is a detailed description of the two activities and assessment results. Selected quotes are included from past course evaluations for the first activity. For the second activity, the university’s center for teaching and learning administered an online (anonymous) student survey with four multiple-choice questions and one open-ended question.

Activity 1: Policy Memorandum (Individual) and Policy Debate (Group)

The first activity includes two components—an individual writing assignment and mock policy debate. The first component is a health policy memorandum (memo), a writing assignment that is well-aligned with the growing consensus among public health schools and programs to improve writing among undergraduate students (Valladares et al., 2019). Policy memos are a written
means of providing policymakers or stakeholders with information to make a policy decision. They are timely documents that examine policies under active consideration. Policy memos can be used for policies proposed at various levels of government or in organizations (e.g., private sector). Memos evaluate different approaches to action and provide clear recommendations.

First, students are assigned a state health policy topic that is currently the subject of legislative action (e.g., proposed bill). Past topics included bills for a state beach and park smoking ban, sugar-sweetened beverage warning label, modifications to student lunch meal nutrition standards, health care coverage, and environmental health protections.

Each student writes a three-page (double-spaced) policy memo on their assigned bill that addresses the following:

1. Define the public health problem or issue the policy is attempting to address
2. Describe the legislative action/policy
3. State how the proposed policy would address the public health problem or issue (include evidence assessing the policy’s effectiveness, efficiency, or equity impacts)
4. Discuss one to two alternative policies and describe the major differences and/or trade-offs between these approaches
5. Provide a clear argument for or against the proposed legislation.

Memos are addressed to a legislator. At least five references should be cited.

The second component is a mock policy debate that occurs after the memo is submitted. Simulations are useful mechanisms for students to role-play and practice their communication skills in a safe learning environment. Debate simulations specifically “teach essential professional and interpersonal skills, such as leadership, teamwork, negotiation and problem solving” and can improve public speaking and problem-solving skills (Godinho et al., 2019).

At the beginning of class, students are randomly assigned to argue either in favor (Affirmative) or against (Negative) the bill they were assigned for their memo. Each group has four to six students. Randomly assigning students to a position, rather than allowing them to choose a side, encourages them to consider both perspectives.

Each group has a brief period (10–15 minutes) to prepare, assign individual roles and responsibilities (i.e., summary statements, arguments, rebuttals, closing statements), and develop their oral arguments. The instructor assigns groups to different physical spaces in the classroom, attempting to maximize separation between opposing teams assigned to the same bill. In a virtual class, each group is sent to a breakout room with instructions to first assign roles and then prepare their statements/arguments.

The policy debate for each bill lasts between 10 and 15 minutes, and each student is limited to 1 to 2 minutes for their piece. During the debate, an instructor or teaching assistant serves as the moderator and timekeeper. The instructor can randomly select the order of the bill topics for presentation. Nonpresenting students are asked to observe all other debates. In a virtual class, debating teams are asked to turn on their video camera/unmute
their audio for their portion while nonpresenting students have their cameras off and are muted to minimize distraction. At the end of each debate, remaining students vote in favor or opposition (aye or nay) of the bill. The vote is anonymous using either clicker technology or asking students to lower their heads/close their eyes and raise their hand. In a virtual classroom, students can respond to an anonymous poll using the polling feature available in Zoom. The instructor tracks the results and announces them at the end.

After the debates, a 2- to 3-minute break occurs ("pause procedure") where students discuss with peers or individually reflect on the experience. This active learning technique helps increase recall through reflective practice, which can enhance student learning (Bachhel & Thaman, 2014). Sample questions to nudge reflection include the following: What surprised you during today’s debate? What were effective strategies to present a persuasive argument? How was evidence incorporated into the arguments? If you could redo it, what might you do differently? After the break, students are asked to volunteer to share their reflections with the class.

Undergraduate course evaluations reflect a mostly positive reception of the policy memo and debate. In a 2017 course evaluation, a student emphasized the value of the memo: “Thanks to [name] class, I've learned how to write a policy memo, a marketable skill I wouldn't have developed otherwise.” Former students have used their policy memo as a writing sample on the job market. The policy debate is a notable “favorite” activity. A fall 2019 course evaluation comment connected the activity with the learning objective, “The course was very engaging from the beginning, by incorporating debates and projects it allowed for us to grow in our public speaking.” Even when the debate was held online in fall 2020, several students said it was a useful activity to promote learning and interaction, as noted in the following quote, “I really enjoyed the debate we had in class. It was really fun and I learned alot from it.”

Activity 2: Policy Analysis Exercise (Group)

A collaborative learning activity for a large undergraduate course is a group policy analysis exercise where students work together to identify and analyze a health policy on behalf of an organization. This activity is also a simulation where students are assigned an organization and emulate the experience of addressing the needs of the organization using public health information and skills. The exercise specifically teaches students about health policy advocacy.

In a large class (~120), students are randomly assigned to groups of seven to nine students. Each group is assigned a public health or health care organization (e.g., AARP, American Medical Association, American Public Health Association, Pharmaceutical Research and Manufacturers of America, Children’s Health Fund, National Rural Health Association). Students are told they are being hired to represent the organization to identify a health policy aligned with the organization’s mission. The brief instructions are to

1. Describe the organization and their objective/mission
2. Explain who the organization represents (i.e., governance structure, target audience served, membership)
3. Identify one public health or health care policy reform supported by the organization
4. Compare the advantages and disadvantages of the proposed policy

Each group develops and submits one set of PowerPoint slides prior to their presentation, with no more than eight slides (including the title and reference slides). Each presentation is 5 to 7 minutes.

A minimum of 3 hours in class are recommended for this activity to allow students adequate time to prepare, present, and reflect. At my institution, class periods are an hour and 15 minutes therefore this activity spans three course periods. In a remote environment, this activity could occur over two course periods of the same length if students are asked to only review a subset of the recorded presentations.

The first class period is allotted for groups to work on the activity with designated spaces for each group in the classroom. To promote a student-centered environment, the instructor and teaching assistants serve as facilitators and go around the classroom to invite questions and provide assistance. With remote instruction, breakout rooms are an appropriate substitute.

Presentations either take place in subsequent class meetings or groups are asked to prerecord their presentations on their own and submit them in the course website. In a remote class, students are assigned a certain number of presentations to watch on their own. After each presentation, each student reviewer completes a peer review rubric with seven statements with Likert-type scales (1 [strongly agree] to 5 [strongly disagree]) and one open-ended question to comment on areas for improvement. The statements are the following:

- The presentation was well organized and ran smoothly.
- The information was highly accurate and relevant to the topic.
- Presenters used words, terms, and examples which the audience understood.

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• Presenters spoke clearly and at a reasonable pace.
• The proposed policy was clearly described and the analysis was appropriate.
• The presentation was colorful, creative, and the information was easy to read.
• Any graphs/tables/diagrams were explained and added value to the presentation.

The peer review motivates students to pay attention to other presentations, enables them to provide constructive feedback to peers, and increases their understanding of how they will be assessed. At the end of the presentations, students volunteer and share their reflections with the class. Afterward, the instructor reviews the completed peer reviews and fills out one rubric with the final grade and comments for each group.

**Student Feedback on the Policy Analysis Exercise**

In an effort to gain insight into the efficacy of utilizing the Policy Analysis Exercise to deepen student learning, a Qualtrics survey was used to assess student’s feelings and experiences regarding the activity. The goal was to learn about the strengths of this exercise and identify ways to improve it in future classes. The survey had a high completion rate (96.7% or n = 116). Eighty-one students also provided open-ended comments—56.8% were positive and 33.3% were negative (9.9% neutral). Table 2 provides the quantitative survey results with selected quotes.

A majority of respondents (76.5%) said the activity was a positive experience and found the exercise an interesting way to learn. Remaining respondents (23.5%) said the group activity was frustrating or a waste of time, noting general group project challenges (e.g., lack of contributions from individual members, communication issues). A few students said they preferred to choose their group members and did not like the random assignment.

Most respondents (88.7%) found the organization of the activity to be very good and/or helpful for engaging with the topic—reflecting the quality of facilitation. Only 11.3% said it was confusing. Recommendations included providing more direction on individual roles or examples.

A majority (65.5%) also agreed the exercise helped them understand the material in a way they would not have on their own—saying they enjoyed learning about the organizations and advocacy activities. Only 16.4% said they disagreed; qualitative feedback from seven students (6%) reflected a preference for passive learning through lecture instead of group work.

Students identified many perceived benefits aligned with learning objectives. More than half (54.3%) said it helped them accomplish all of the following: critically thinking about important public health concepts, collaborating with peers, identifying connections across concepts, and applying course knowledge. Several spoke positively about the collaborative aspect, noting it was beneficial and enjoyable to meet new people; some said they liked the simulation aspect and thought it was a helpful way to apply course material.

**Discussion**

Undergraduate health policy curriculum can be a valuable vehicle to train public health and health professionals in health policy issues, analysis, and communication skills, which are in high demand. Undergraduate health policy curriculum is lacking and can be difficult to access since these materials are not readily accessible through academic search databases (Heiman et al., 2015). This article fills a gap in public health education pedagogy by describing undergraduate health policy curriculum to cultivate health policy and communication skills. These skills are critical for public health practitioners who often lack training in politics and policy. The mock debate particularly encourages students to practice demonstrating respect and professionalism even in the face of disagreement (Godinho et al., 2019), which is an essential skill for public health professionals and policymakers.

Key strengths include the adaptability of the curriculum to different class sizes and instruction modalities; the activities have also been implemented in a large public university with success. The curriculum spans several public health competencies and advances both political and policy communication skills. The curriculum is designed to cover health care and public health policy as opposed to parochially focusing on health care policy (Bayer et al., 2017; Heiman et al., 2015; Patel et al., 2009). A broader perspective encourages students to become aware of the social and political determinants of health and to employ a multidisciplinary analytical approach.

Barriers to implementing health policy training include a lack of perceived relevance, lack of resources, scheduling and time constraints, limited faculty expertise and interest, and time cost associated with service- or experiential learning (Bayer et al., 2017; DiCenso et al., 2012; Heiman et al., 2015; Mou et al., 2011). The described health policy curriculum leverages simulation activities, which do not require additional administrative support or coordination with external entities.

Potential challenges with implementing the health policy course activities include shifting focus from the instructor as an authoritarian to a facilitator (Patton, 2015). Active learning may be uncomfortable for instructors who mostly deliver lecture content and engage in passive learning pedagogy. Instructors who have not previously incorporated active learning strategies in an undergraduate classroom may wish to start with simpler techniques.
(e.g., using a student response system a.k.a. classroom clickers, 1-2 minute reflection, pair-and-share assignment after 15-20 minutes of lecture) before transitioning to more complicated active learning course activities like the ones shared in this article.

Students may also be resistant to student-centered learning strategies that require them to actively participate in their learning. Similar to the challenge with instructors, undergraduate students may be more familiar and therefore comfortable with passive learning strategies. To reduce resistance, instructors can explain the purpose and expectations of active learning course activities and use facilitation strategies (Tharayil et al., 2018).

Table 2. Policy Analysis Exercise Student Survey Results and Selected Quotes ($n = 116$).

| Multiple-choice question (select only one response) | n (%) | Selected quote(s) from responses to an open-ended question: In terms of the in-class group activity, what would you like the instructor to know about your experience? |
|-----------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------|
| The policy analysis exercise was a/an . . . | | |
| Interesting way to learn | 88 (76.5%) | “It was informative and interesting” |
| Frustrating experience | 18 (15.7%) | “Some peers just do not contribute” |
| Waste of instructional time | 9 (7.8%) | “Our groups were too big that it made it difficult to communicate” |
| The organization of the in-class activity . . . | | |
| Was very good (A) | 30 (26.1%) | “It would’ve been better to let us pick our own groups” |
| Helped facilitate engagement with the topic (B) | 32 (27.8%) | “It was an interesting way to learn” |
| Was confusing | 13 (11.3%) | “Our groups were too big that it made it difficult to communicate” |
| Both A and B | 40 (34.8%) | “It was a waste of time because everything was rushed” |
| The in-class learning activity helped me understand material in a way I probably would not have on my own. | | |
| Strongly or somewhat agree | 76 (65.5%) | “I really liked that the groups were picked for us and the overall organization of the exercise was great!” |
| Neither agree or disagree | 21 (18.1%) | “This was a great experience, it was well organized” |
| Strongly or somewhat disagree | 19 (16.4%) | “I appreciated being assigned a topic instead of choosing on my own, it encouraged me to explore something out of my natural interests” |
| The policy analysis exercise required us to . . . | | |
| Think more deeply about important concepts in public health | 20 (17.2%) | “The most confusing part was who was doing what.” |
| Work more closely with peers | 17 (14.7%) | “An example would have been more helpful” |
| Make important connections across concepts | 12 (10.3%) | “I feel like I have a better understanding of interest groups and policies they advocate for” |
| Apply what we have been learning in class | 4 (3.4%) | “I appreciated being assigned a topic instead of choosing on my own, it encouraged me to explore something out of my natural interests” |
| All of the above | 63 (54.3%) | “The most confusing part was who was doing what.” |

Note. Percentages are based on nonmissing values.
Conclusion
Training undergraduate public health students in policy analysis and communication skills is essential to producing practitioners who are both knowledgeable about health policy and can apply these skills in real-world settings. Few articles focus on training public health practitioners in these areas. The innovative health policy curriculum described demonstrates how instructors can use an active learning approach to effectively cultivate these skills in undergraduate public health programs of varying sizes and with resource limitations.

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