

Utilizing a Data-to-Action Approach to Cultivate Policy Research and Advocacy Skills in Community-Engaged Health Promotion Courses

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Abstract

Community-engaged (or service) learning is a common approach in health promotion and undergraduate education and can provide students with an opportunity to learn about the social determinants of health and policy change and advocacy. Students can support organizations with policy advocacy to promote more equitable resource allocation in communities close to campus and take these skills into their future professions. This article presents an overview of and the lessons learned from a “data-to-action” approach, as well as a summary of students’ perceptions on being part of a class taking this approach. In partnership with community organizations advocating for policy change, a data-to-action approach engages and guides students in primary and/or secondary data collection, analysis, and reporting. Through the projects described in this article, students observed how policy change can affect the social determinants of health, and they contributed to advocacy efforts for policy change, such as extending bus routes, reducing the marketing and sales of tobacco, and prioritizing resources for people who are houseless. Overall, students reported that they gained familiarity with local communities and with research and other professional skills. A data-to-action approach has the potential to benefit both students and community organizations’ local advocacy efforts.

Keywords

community-engaged learning, experiential learning, health policy, undergraduate research

Critical in training health promotion students is the role of social determinants of health (SDOH), which are the “conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of-life risks and outcomes” (Centers for Disease Control and Prevention, 2020, para. 1); they are responsible for an estimated 80% to 90% of a person’s overall health (Hood et al., 2016). Improving SDOH often requires policy change, and advocating for public health policy is important in health promotion practice (Garcia et al., 2015). However, despite its importance, only 26% of U.S. undergraduate students in a nationwide survey responded that they receive training in policy advocacy (E. J. Conrad et al., 2019). The authors of the survey concluded that relevant training predicts advocacy and policy involvement and there is a need “to provide coursework or experiences in health promotion curriculum starting at the undergraduate level” (E. J. Conrad et al., 2019, p. 738).

Community-engaged (or service) learning is a common approach in health promotion and undergraduate education (Cashman & Seifer, 2008), and it can provide students with the opportunity to learn about SDOH and policy change and advocacy. Critical service learning can help students learn about and take action around social change and redistribution of power (Mitchell, 2008). Also, as Malik et al. (2017) suggest, “implementation of community-based experiences could improve knowledge of health policy, while providing an opportunity for students to gain experience in health policy committee

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roles" (p. 735). Community-engaged classes with a focus on policy change and advocacy often have the potential to support policy change in communities close to campus. For many community organizations, advocacy is often a vital function through which they are able to promote more equitable resource allocation.

Though limited in number, published examples of service-learning courses focused on health policy advocacy in human services education include those in social work programs (Mink & Twill, 2012) and graduate public health programs (Gakh, 2020). In one documented course, students were individually paired with organizations to work on policy projects (Droppa, 2007). In medical schools, service-learning also was used to enhance understanding of health policy among college students (P. Conrad et al., 2005).

This article describes a "data-to-action" approach, which provides students with training and an opportunity to undertake research activities to support and engage with local policy advocacy efforts. The article also presents students' perceptions of the impact of engaging in research to advocate for policies to improve SDOH in communities near campus. The authors hope that the steps and examples described in this article will provide ideas for educators thinking about conducting similar community-engaged courses.

Context

The context for the approach described in this article is the University of North Carolina at Asheville (UNCA), a small public liberal arts university in the southeastern United States. Part of UNCA's mission is to serve the public good, and community engagement is one of the pillars of the strategic plan. The courses are in the Health and Wellness Promotion department. One course is Health Justice (previously Health Parity: Domestic and Global Perspectives), and the other is Community Health Promotion: Theory and Practice, which Health and Wellness Promotion majors must take to graduate. They are "Service-Learning" and "Diversity-Intensive" courses, as designated by the university's Key Center for Community-Engaged Learning and the UNCA Diversity Intensive Committee, respectively. Students are required to complete 15 to 20 hours of community-engaged activities depending on the course. Coauthor A.B. is the faculty member who has been strengthening a data-to-action approach over the years, and coauthors A.E.T. and D.H. are former students in classes with a data-to-action approach. Table 1 presents information from selected projects, including the years, community partners, advocacy goals and decision makers, and student activities. The process varies slightly depending on the project. As such, we consider data-to-action an approach rather than a model.

Steps in a Data-to-Action Approach

Figure 1 illustrates the general steps in a data-to-action approach. The faculty member usually undertakes the first few steps prior to the beginning of the semester to maximize time for data collection, analyses, and reporting during the semester.

Identifying Advocacy Goals and Needed Information

The process begins with naming an advocacy goal, usually already identified and raised with the faculty member by an existing community partner. In the beginning, the faculty member contacted organizations to find out if they would like to partner. Over the years, the same and new partners started to contact the faculty member with ideas for projects. Together the faculty member and community partner discuss the kinds of information that would be helpful for their advocacy efforts. Organizations appreciate the research support because they often do not have the time and staff, and sometimes the expertise, to carry out such research. For example, for the bus route extension campaign, needed information included primary data from local bus riders and secondary data on the bus fares and number of routes in similar-sized cities around the country.

Planning Methods and Instruments for Collecting Data

The faculty member and community partner discuss appropriate and feasible methods and instruments for collecting data. For primary data, we may decide to conduct a survey or collect observational data, and we develop protocols and instruments. For secondary data, we develop protocols and systems for organizing the information (see the section on data collection for more specifics). After an initial conversation, the faculty member usually develops the protocols and instruments and then asks for feedback and additional input from the community partner. Sometimes we work together on them, and we often adapt existing instruments.

Obtaining the Necessary Approvals

If human participants will be involved in the research, application for approval from the university institutional review board (IRB) and/or community organizations is usually the next step. In an effort to reduce the burden and risks to potential participants, the projects maintain anonymity in data collection procedures when possible. If IRB approval is required, it is better to complete the steps described above prior to or very early in the semester. However, it can be valuable to gain student input on instruments when time permits.

Table 1. Selected Data-to-Action Projects, 2017 to 2019.

Project title (date)/ <i>Partner organization</i>	Advocacy goal and decision makers	Major student activities
Bus Route Extensions (2017)/ <i>Just Economics</i>	Inform route extension decisions by the city government	<ul style="list-style-type: none"> Conducted survey of bus riders on perceived need for additional routes and longer run times Analyzed data and created descriptive charts Drafted report and presented findings to multimodal committee
Voices of Unhoused (2017)/ <i>Homeless Initiative Advisory Committee</i>	Include priorities of people who are unhoused in city's strategy to end homelessness	<ul style="list-style-type: none"> Entered and analyzed data from survey of people who were houseless Analyzed data and created descriptive charts Drafted report to Homeless Initiative Advisory Committee
Youth Tobacco (2017) and ENDS (electronic nicotine delivery systems; 2019) marketing assessment/ <i>Henderson County Health Department</i>	Inform Board of Health's decision to pass a resolution requesting an end to North Carolina State preemption of local policies to address tobacco marketing to youth; inform plans for marketing and ID checks	<ul style="list-style-type: none"> Collected and entered observational data on marketing of tobacco and ENDS to youth in county stores and conducted purchase attempts (2019) Analyzed data and created descriptive charts Drafted reports, page fact sheets, and infographics for county health department and letter to the editor for local newspaper Presented to the county Board of Health
Street Tweaks (2018)/ <i>Asheville on Bikes & Street Tweaks Coalition</i>	Inform city government decision making about whether and how to expand efforts to encourage nonvehicular transport (walking, biking, etc.) downtown	<ul style="list-style-type: none"> Provided input on observational instrument on the characteristics of nonvehicular travelers in the street where the intervention was to take place Collected and entered data on nonvehicular traffic before, during, and after the intervention Analyzed data and created descriptive charts Presented to Asheville on Bikes Coalition
Buncombe County Family Affordability (2018, 2019)/ <i>Just Economics and Family Friendly Affordable Buncombe</i>	Inform county commission's annual budget allocation decisions	<ul style="list-style-type: none"> Researched existing programs and policies on affordable housing and minimum wages in similar cities in the United States Conducted survey on county business wages Collected and entered data from survey, on jobs, wages, affordability, transportation needs, and early-childhood care needs Analyzed data and created descriptive charts and identified themes in qualitative data Drafted reports for Just Economics and Family Friendly Affordable Buncombe

Preparing Students for Context, Research Skills, and More

The faculty member introduces a data-to-action approach to students early in the semester (as shown in Figure 2). The faculty member and students discuss how data in various forms may be used to inform decisions and ultimately lead to better outcomes in the community. The role of students and faculty is to support community organizations and members by conducting research and preparing materials that can be used to inform SDOH policy-related decision making important to the organizations and the communities they serve. As Figure 2 depicts, students are engaged in the "data" portion, which includes conducting the research and analyses, as well as the "action"

portion, which includes creating products, speaking at public meetings, and additional aspects that students may or may not engage in during the duration of a semester. The "outcomes" are what we, the partner organizations, and the resulting policies and programming work toward.

Students begin learning about the project by visiting the website of the partner organization and reading articles about historic and contemporary perspectives on the SDOH of relevance to the project. Organization representatives visit the class and share more about how the advocacy goal and class engagement are valuable for advancing policy change and improving SDOH in the communities they serve. The class also reads about and discusses relevant topics, such as research methods, research ethics, and community-based participatory

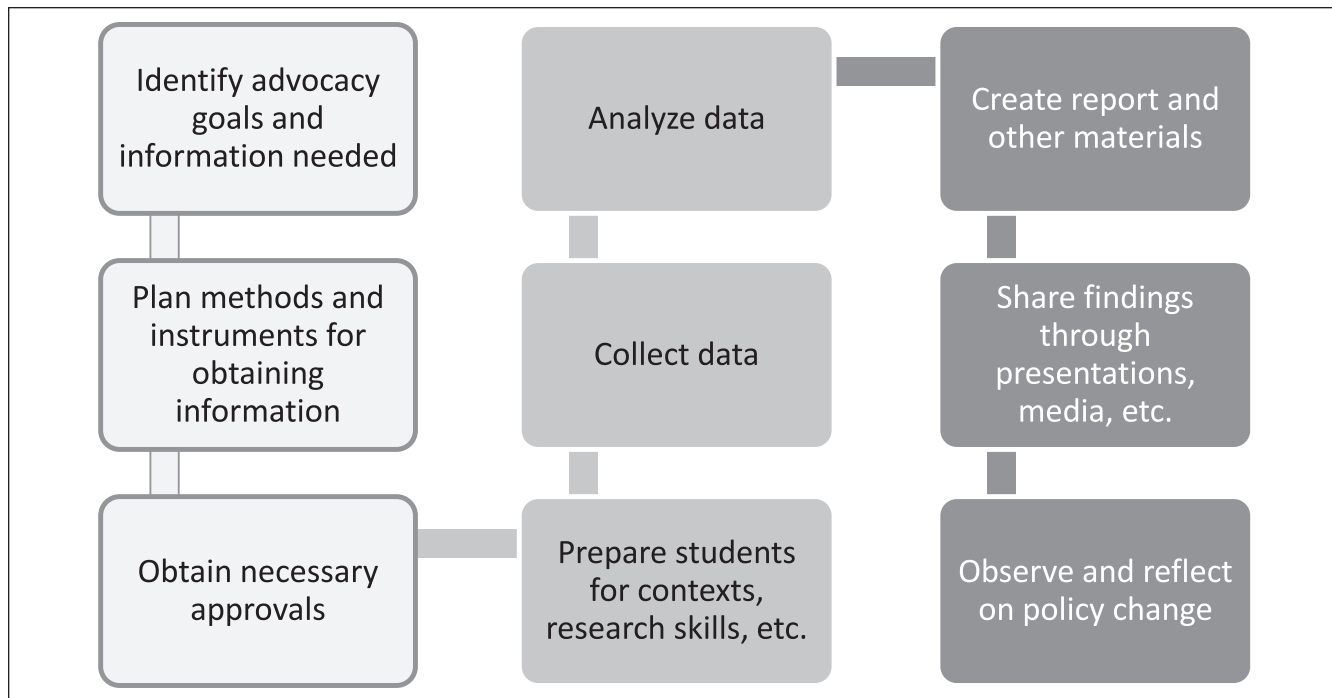


Figure 1. Step-by-step process involved in data-to-action projects.

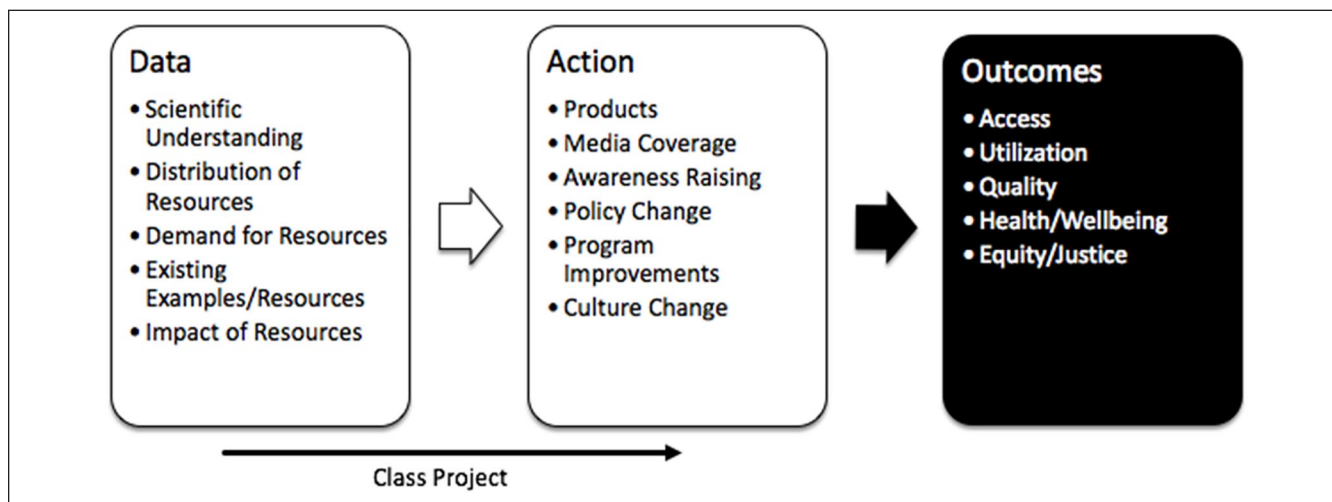


Figure 2. Overview of data-to-action approach.

research and action. When human participants are involved, some or all students take the online CITI student course on research ethics (CITI Program, n.d.). Students also receive training from the faculty member and/or community partner on how to use research instruments appropriately. Together, the class walks through the protocols and discusses potential interpretations, challenges, and ways to increase consistency and reliability of data collection and organization. All the relevant documents are kept in Google folders and are only shared with students and community organization representatives.

Collecting Data

Next, students collect data. Depending on the class and project, students usually work in pairs or groups to collect data. Visiting stores for observational assessments or surveying community members often works well in pairs. Conducting research on existing information about programs or policies in other places works well in groups. Throughout the data collection period, students share their experiences and tips on how to address challenges that might arise. Google spreadsheets are used to assign and record data collection activities, including who is

paired or grouped with whom, their assigned areas for data collection, data collection completion dates, and other notes.

Analyzing Data

Once all the data are collected, one or two students will meet with the faculty member to learn how to and then clean the data, sometimes involving a recoding of the data as appropriate. In classes with quantitative data, a class session is devoted to data analysis skill building among all students. Students work in pairs with the data in a mock Google spreadsheet as they learn how to create tables and charts from the available data. Then, students sign up to create tables, charts, and/or descriptive narrative text using uniform formatting for the report and presentation slides. In classes with secondary research and qualitative data, the focus is on summarizing the information based on themes. Students put together the summary text, including illustrative quotes, for the reports and presentations.

Creating Reports and Other Materials

In data-to-action projects, the “action” portion begins with developing materials. For most projects, we draft a report and slide deck with the findings from the research for the partner organization. The community partner usually visits the class when the analysis and report drafts are prepared so community organization questions may be answered and the reports updated, and to learn about plans to use the information. To gain more community-engaged hours or experience, some students sign up to work on additional materials that the community organization would like to use in advocacy efforts. Over the years, students have created infographics, two-page fact sheets for board meetings, and letters to the editor.

Sharing Findings Through Presentations and More

Students present the findings to the community partner and to others, including policy decision makers such as Board of Health Commissioners, City Council members, and others. Community partners share the findings as part of their advocacy campaigns, including when they meet with policy makers, in community-organizing meetings, when they talk with the news media, and in other ways.

Observing and Reflecting on Policy Change

Depending on the timing, a class of students may witness a policy change during the semester. In one project, the Henderson County Board of Health passed a resolution to request the state’s preemption of local policies on tobacco marketing to youth on the same night the students from our class presented the findings. However, in

most cases, policy decisions come later. In the project with the Homeless Initiative Advisory Committee (2017), the class was named, and the class report appended to, the Asheville City Strategy to End Homelessness. Related to the project, for which students surveyed bus riders, the Asheville City Council approved the extension of two new bus routes. When policy decisions are taken after the end of the course, the faculty member sends the students an email about how their research contributed to the action.

Critical Reflection

A key component of community-engaged/service-learning is guided critical reflection and articulation of learning (Mitchell, 2008). In classes using a data-to-action approach, students typically complete three written assignments. The first is a pre-engagement report, which students complete soon after learning about the project and their planned roles. In the report, they discuss their perceptions of the purpose of the project, apply class concepts related to community engagement, and discuss areas of knowledge and skills they believe they will build through the project work, which is separate from the course objectives. The second written assignment is a midterm report, in which students provide an update on their activities and learning. The final assignment is a detailed, reflective log, in which students record their hours and activities and include narrative text that describes how their work contributed to their course, professional, and personal learning. In addition to written assignments, students engage in full-class discussions, which is counted toward their course participation grade.

Student Responses to Data-to-Action Courses

To better understand students’ perceptions of their experiences in data-to-action classes, between February and May 2020 the authors conducted a survey of previously enrolled students. After obtaining IRB approval, the faculty member sent 67 former students an email invitation to complete a brief, anonymous Google form about a data-to-action course they were enrolled in in the previous 2 years. The questions were about the students’ perceptions of what they had learned, the project’s impact, and their suggestions for improvement. The participants’ responses were analyzed using an inductive thematic analysis. Two student researchers reviewed the responses to each question, looking for and coding similar ideas into thematic groups. The students then met to discuss and consolidate the themes. A total of 26 (38.8%) former students responded to the survey. Those who wished to receive the incentive of a reusable metal straw informed the student researchers and received the straws in the mail

due to the move to remote learning during the COVID-19 pandemic. These circumstances may have influenced the response rate as well; while the findings are helpful, they are not representative of all the students in the courses.

What Students Learned

When asked the question “What did you learn while working on this project, if anything?” one theme that emerged was around the opportunity to learn more about the community surrounding the university’s campus, as evidenced in the following comment:

Needs vary greatly, and accessibility is an issue in the Asheville area. I learned how to better understand the perspectives of others, how Asheville City systems currently work, and a little of what is needed to reform them.

Additionally, respondents commented on lessons related to the methods used in the projects, including focus groups, store auditing, and surveying. A theme that emerged was the unanticipated difficulty of and learning from primary data collection. For example, a respondent noted,

I found interacting with people and asking these questions that are very important and relevant to many people to be very valuable. I felt humbled and full of gratitude by how readily people made time for answering these questions. I learned a lot about data collection and evaluation.

Impact of Experience on Work as a Health Promoter

In response to the question “How do you think this experience will have an impact on your current/future work as a health promoter, if at all?” one theme involved opportunities for personal growth and for gaining community compassion. Students’ experiences appeared to be largely shaped by their interactions. One student commented,

It has already had dramatic impacts. I now have an effective understanding of the socioeconomic issues in Asheville and their consequences on the citizens of this area. As someone who wants to work in mental health care, having a knowledge of the systems at play and how they affect my clients will allow me to be a better mental health professional.

Another student remarked, “I think this experience helps me understand priorities and key issues of importance in our community. This helped get me out of my comfort zone.”

The survey’s final question asked, “What suggestions, if any, do you have for future data-to-action projects?” Students expressed appreciation for the opportunity to participate in such meaningful work while offering

suggestions for future classes. Suggestions included informing students earlier in the semester of all the tasks they would undertake, displaying all information together in one place on the course website, greater clarity about the tasks expected of them at various times (including reminders), and more communication as a class. These largely logistical suggestions will be intentionally incorporated into future courses, taking into account that community engagement also is often unpredictable.

Discussion

This data-to-action approach has evolved over the past 10 years of working with community partners and students. Community partners express their appreciation for students’ contributions to advocacy work as they may not have the staff time or the training to undertake such research activities. They also appreciate that university students, representing an academic and external source, undertake the research, which adds credibility to the findings and the campaign. As a result of working on data-to-action projects, continuing and new community partners approach the faculty member about potential partnerships, which strengthens relationships and models for students’ long-term investment in communities. Also, students go on to volunteer, intern, and work with the data-to-action partners. Though most of our work is with organizations, increasingly, we are working with groups that train and work collectively with community members most affected by resource inequities.

While the majority of students in data-to-action classes had not previously engaged in similar activities, their enthusiasm for this work is encouraging and their contributions noteworthy. Students often share how they value the opportunity to work on addressing health inequities in various systems, including transportation and education. During regular discussions about the project in class, the faculty member invites students to share their concerns about aspects of the research as well. We discuss concerns regarding and potential changes to the protocols, which leads to better data collection and analyses. For example, when working on collecting data on nonvehicular traffic, students questioned the predetermined approach of noting people’s race and gender based on rater assumption. Since data collection did not include stopping people to ask them such personal questions, those identity parameters were removed from the items in the instrument. The result was a more ethical instrument and project. Occasionally, individual students express that they do not feel comfortable with engaging in the study activities because of a moral or social concern. For example, when conducting in-store assessments and ENDS (electronic nicotine delivery systems) purchase attempts, a student who had previously worked

in a convenience store expressed concern about the possibility that store clerks would be penalized because of the research. Though there were no individual penalties, just warnings to stores, we discussed an alternative activity for the student. The student researched and prepared a pamphlet on alternative school approaches to disciplinary actions for students found with ENDS. The activity addressed the student's concerns, and the organization agreed that it would be helpful for their in-school programming.

Overall, student comments suggest that they relate data-to-action projects to broader contributions and skills development. The policy-related skills gained in these courses, such as identifying policy audiences, reading and understanding the policy language, collaborating with advocacy organizations, displaying policy-relevant data, and crafting policy-oriented materials, are rare among undergraduates. According to a national survey, only 6% of students have "provided written reports, consultation, research, or other such assistance to a public official in support of or opposition to a public policy issue" (E. J. Conrad et al., 2019, p. 735), and only 9% have "participated in an advocacy committee or coalition that takes action to influence public policy issues" (E. J. Conrad et al., 2019, p. 735). Students also mentioned developing research-related skills, which previous research suggests is associated with increases in knowledge of neighborhood inequalities and motivation to talk about health issues (Zografos et al., 2020). Students commented that they learned about their community while at university, an important outcome associated with explicitly community-engaged learning projects (Mobley, 2007).

Some lessons learned from implementing a data-to-action approach that may be useful to other educators include the following:

- Approach partners, and ask if they have policy advocacy goals for which they would like to have some additional research support; over time, partners will seek out the class.
- Start early, and obtain IRB approval, if necessary, prior to the beginning of the semester.
- Communicate clearly with students about the approach, its value, and expectations, as well as the need to be flexible given that timing in research and community projects can be unpredictable.
- Ensure that students and community partners have an opportunity to interact early in the semester, again when it is time to share the draft findings from the research, and, as much as time permits, throughout the semester.
- Maintain documents and information in a shared online folder, and provide reminders and guidance to students on how to find, review, and utilize them.
- Support students in utilizing their skills and talents in the project, such as organizing information, analyzing data, writing the narrative sections of the report, designing infographics, making presentations, and more.
- Keep in touch with partners to learn about how the research has contributed to policy and other changes, and keep in touch with students about the ways their research is being used for advocacy purposes.

Conclusion

A data-to-action approach can offer an opportunity for undergraduate students to learn about improving the SDOH. A data-to-action process differs depending on the context and advocacy goals and involves multiple steps and activities. Overall, students report that they gain familiarity with their community and with research and other professional skills, and community organizations and communities benefit from their contributions to local advocacy efforts.

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