

ABSTRACT

Service-learning is a critical component of public health education, especially students of Doctor of Public Health (DrPH), designed for public health professionals. As an evidence-based approach to impactful teaching improving students' learning outcomes, service-learning enables future public health practitioners to engage in the learning and reflective practices developing skills needed to be leaders of social change within their communities. E-service learning has been gaining popularity among faculty and students. This study describes a grant writing course for DrPH students of various concentrations delivered online. We draw attention to the growing need to incorporate service-learning into the public health curriculum to promote social change, address local health disparities, improve students' learning experiences and outcomes, and stay relevant with the educational landscape.

Using Service Learning in an Online Course on Grant Writing for Doctoral Students of Public Health

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“eService-Learning is not just a class – it is a calling.” (Strait & Nordyke, Eds., 2015, p. 2)

Introduction

With the expansion of an online academic community coupled with the need to deliver high-impact educational practices, eService-Learning has been gaining popularity among faculty and students (Moloney & Oakley, 2010; Salam, Iskandar, Ibrahim et al., 2019; Strait & Nordyke, Eds., 2015). EService-Learning removes boundaries associated with the more traditional service-learning methods-- a multifaceted teaching and learning process of connecting real-world experiences with academic goals. During such process, the service benefits the community partner, and the learning benefits the student (Strait & Nordyke, 2015). As one of community engagement pedagogies, service-learning is often compared to community-based research, community partnerships, internships, activism,

volunteerism, and community service. Service-learning is one of the five practices emphasized in the 2010 report on high-impact educational practices titled “Five High-Impact Practices: Research on Learning Outcomes, Completion, and Quality,” issued by the Association of American Colleges and Universities (Association of American Colleges and Universities, 2022). This pedagogy leads to several gains for participating students, including academic engagement, improved critical thinking and writing skills, improved interaction with faculty and peers and related team-building experience, and an increased sense of civic engagement and reduction in stereotyping (Strait & Nordyke, 2015).

The Institute of Medicine report, *Who Will Keep the Public Healthy? Education Public Health Professionals for the 21st Century* has emphasized public health education promotes excellent citizenship with life-long lasting impact and recommends public health education to be offered to all undergraduates as an integral part of their education regardless of career paths (Hernandez, Rosenstock, & Gebbie, 2003). Academic institutions of public health have been challenged to create excellent learning environments that will expose students to experiential, collaborative learning with long-lasting impact (Council on Education for Public Health [CEPH], 2018). While such challenges have been commonly addressed using internships, practice, or field experiences as part of graduation requirements, service-learning projects have been limited. Nevertheless, they emphasize reciprocity and promote a balance between meeting the community’s needs and academic partners. Prior research has highlighted the importance of service-learning to the field of public health and suggested ways to incorporate it into public health education (Cashman & Seifer, 2008). Historically rooted in undergraduate education, service-learning has been promoted among undergraduate students of public health as part of introductory public health core courses or electives to enable future public health professionals to ensure conditions in which everyone can be healthy (DeSalvo, Wang, Harris et al., 2017; Mackenzie, Hinchey, & Cornforth, 2019). More recently, service-learning programs integrated into graduate coursework have also gained recognition (Horney, Bamrara, Macik et al., 2016). Service-learning is an evidence-based approach to impactful learning knowing to improve students’ learning outcomes (Prentice & Robinson, 2010).

The Doctor of Public Health (DrPH) degree is an “advanced professional practice degree designed to prepare graduate students for careers as senior-level administrators, applied researchers, policymakers, and educators providing leadership to protect and improve public’s health” (Lee, Furner, Yager et al., 2009, p. 77). In the 2014 report titled *Framing the Future: DrPH for the 21st Century*, a DrPH graduate has been envisioned as “a transformative leader with expertise in evidence-based public health practice and research who can convene diverse partners and communicate to effect change across a range of sectors and settings” (Association of Schools and Programs of Public Health, 2014). Emphasis on reciprocity between learning and reflective practice makes service-learning an ideal venue to develop skills to effectively work with communities and ultimately achieve social change (Cashman & Seifer, 2008). While the delivery of online DrPH coursework has evolved, innovative development in

the field of civically engaged teaching and learning online has been limited (Strait & Nordyke, 2015).

The current study describes a grant writing course for DrPH students of various concentrations delivered online. We draw attention to the growing need to incorporate service-learning into the public health curriculum to promote social change, address local health disparities, improve students' learning experiences and outcomes, and stay 'relevant' with the educational landscape (Association of Schools and Programs of Public Health [ASPPH], 2014; Bowen, 2014; Rominger, 2018). As the studies includes course description and reflections, the institutional IRB human subjects approval was not sought.

Learning Community

The DrPH program at Jiann-Ping Hsu College of Public Health (JPHCOPH) Georgia Southern University (GS) is a 3-year degree program that prepares full-time or part-time students with the knowledge, skills, and values needed to be an influential effective public health professional. The program offers four concentrations: Biostatistics, Community and Health Behavior and Education, Epidemiology, and Public Health Leadership. The originally created JPHCOPH is located in Statesboro, Bulloch County of Georgia.

The population in of Bulloch County was composed of 66% white, 30% black, 2% Asian, and 2% multiracial residents (OASIS, 2017c). In 2016, 29.9% of Bulloch County's 74,722 residents lived at or below the poverty level, and 19.1% of individuals under age 65 were uninsured (U.S. Census, 2010). According to the 2019 County Health Rankings' profile, 22% of adult residents in Bulloch County smoked, 30% were obese, 24% were physically inactive, and 20% were uninsured (County Health Rankings & Roadmaps, 2019). Accessing quality medical care in Bulloch Country can be challenging for low income, uninsured individuals. While the county is not considered rural because it has a population of more than 35,000 residents, it is surrounded by six rural counties: Screven, Jenkins, Emanuel, Candler, Evans, and Bryan County (GeorgiaGov, n.d). In his report, Nelson (2016) drew attention to the stark contrast between the urban and rural regions of Georgia, referred to as the 'two Georgias': more than 30% of all rural counties experience the worst health outcomes across the state; 8% of them have the lowest quality of life, and in almost 90% of all the rural counties, premature mortality is overwhelmingly higher than the state's average.

The community partner, The Hearts & Hands Clinic (hereinafter, referred to as Clinic), is the only free primary healthcare facility in Bulloch Country; the closest free clinics are an hour's drive away. The Clinic provides free healthcare to Bulloch Country residents aged 18 years or older who are uninsured, ineligible for Medicaid and Medicare, and live at or below 200% of federal poverty guidelines. The patients are cared for by volunteer medical and dental providers. The Clinic employs a part-time Nurse Practitioner (NP) and Registered Nurse (RN) and partners with 23 licensed volunteer medical and dental healthcare providers caring for patients on-site. The clinic has 58 health care provider partnerships in the community, and it provides primary care,

dental, vision, lab draws, prostate screenings, mammogram appointments, and specialty referrals. Given the overwhelming need for affordable healthcare throughout the community, the demand for services continues to grow. In 2014, the Clinic provided 1,715 appointments, and in 2019, the number of patient visits grew to 2,638. Because of the Clinic's evolving partnerships and funding, the number of new patients has also steadily increased. In 2015, 54 individuals became active patients; in 2019, that number increased to 487 active medical and dental patients, 62% female, and 38% male. Over half of patients were non-Hispanic black, 40.7% were non-Hispanic white, and 1.3% were Hispanic. Approximately 85% had diabetes or hypertension, and 35% were diagnosed with both, with nearly all having underlying conditions such as obesity or high cholesterol. In a national study among rural stakeholders, access to health care and diabetes-related services were among the top five priorities in rural areas (Bolin, 2015). Academic-community engagement through practice is an excellent tool to support the health needs of rural communities. Public health practice encompasses translating and applying research, teaching, and service to solve health disparities (Potter et al., 2009).

EService-Learning

Service-learning (SL) encompasses the three significant areas of practice, and it provides a more vibrant learning environment for students (Bransford, Brown, & Cocking, 1999; Furco, 2002; Klute, & Billig, 2002). Mennen (2006) describes SL as a structured pedagogy and a philosophy that incorporates both teaching and learning in social settings. Moreover, this discipline enhances students' civic engagement (Morgan & Streb, 2001), which exposes them to health disparities in local communities (Buckner, Ndjakani, Banks et al., 2010), and creates opportunities for professional networking relationships (Anderson, Royster, Bailey et al., 2011). This experiential and participatory approach to public health is imperative to foster a practical and engaging generation of public health leaders.

Historically, service-learning has proved effective in a face-to-face traditional classroom setting, where academic institutions engage their students with community partners (Seifer, 1998). Although little research has been done on the effectiveness of e-service-learning, no differences were found when service-learning is delivered entirely online (McGorry, 2012). As academia transitions to a more technological era, such modality can be valuable and impactful in hybrid courses where students are still in between online and face-to-face (e.g., in terms of students' expectations on coursework/assignment burden and self-paced work vs. timed for in-class meetings, developing a sense of helping the community to which students may not relate). E-learning also provides more significant opportunities to increase service-learning because students are constrained to working with communities around their universities; they can do the service with their communities regardless of how far they are from campus. Additionally, Eservice-learning provides an opportunity to foster interdisciplinary and international collaborative work across multiple disciplines and countries (Snyder & Little, 2021). A course on grant-writing is a suitable example for

teaching interdisciplinary and international collaboration. Grant writing is the craftsmanship of a good storyteller with the power to convey all parts of the story, in a cohesive and clear manner (Mennen, K., 2006).

The course on grant-writing is a doctoral-level course, commonly taken by students after completion of their coursework. Most students are adult learners and are already employed in public health. Some of them are already familiar with working as consultants; as they take the course, they are encouraged to think of themselves as such. We also capitalize on different areas of expertise students of various concentrations have to offer as we create groups of students representing each of the five concentrations. For example, biostatistics students take charge of the methods and evaluation section of the grant proposal; community health students lead the subsection on significance and evaluation; leadership students work on the budget-related and logistical sections. The service-learning engagement was integrated into an existing grant writing course through a combination of a one-time group service project which supported meeting the course objectives and a project-related activity that required supported SL activities throughout the course (Bandy, 2019). The service-learning project has been designed prior to the course offering with the input of the community partner and representative from the service-learning office at the university. Implementation strategies and specific activities have been fully stated at the beginning of the semester to ensure students know that the course entails.

This doctoral course has been offered in both hybrid and completely online (e.g., summer 2021 due to Covid) formats. When offered in a hybrid format, students met four times during the semester, while the rest of the course was delivered online using the Folio system. The service-learning project (Assignment 1 Part A & Part B) and critical review of grant applications (Assignment 2) requiring individual and group work constituted the basis of student evaluation. Table 1 describes the service-learning assignment from the course syllabus.

Lessons Learned

At the national level, collaborative efforts are viewed as the best approach to eliminating health disparities (US, HHS, 2018). Service-learning projects provide opportunities for faculty to work collaboratively with the community. However, such projects are still falling short in the classrooms. In their systematic review, Hilliard and Boulton (2012) found the public health sector was still lacking a workforce well immersed in the scholarship of public health practice. Therefore, schools and colleges of public health are being challenged to create excellent learning environments that will expose students to experiential, collaborative learning (Council on Education for Public Health [CEPH], 2018). These priorities highlight the need to increase collaborations between schools and the community to provide learning platforms outside the classrooms.

Incorporating service-learning allows students and faculty to address health disparities and exposes students to impoverished neighborhoods and communities that face real health challenges. From the students' perspective, this experiential learning enhances their leadership skills and allows them to apply solutions to actual problems (Sabo et al., 2015). Similarly, students also report higher levels of personal growth and awareness of local health disparities (Hou, 2009; Upadhyaya, May, & Highfield, 2015). Capitalizing on the richness of service-learning in Georgia, where 108 of 159 counties are rural, is paramount for public health work.

In several of Georgia's higher education settings, service-learning health projects are leading the way in public health practice. For example, various service-learning activities were incorporated into the nursing curriculum at Emory School of Nursing (i.e., needs assessment, health education, health fairs), where students collaborate with agencies to provide services to homeless, teens, farm workers, and special needs individuals. The activities are meant to create a learning environment where students apply their skills in community-based health promotion and prevention and work with diverse rural communities (Kelley, Connor, Kun et al., 2008). Similarly, Morehouse School of Medicine prides itself on achieving a culture of community service by incorporating a service-learning curriculum throughout its medical program. The school understands the importance of generating a healthcare workforce grounded in community health and caring for underserved populations (Buckner, Ndjakani, Banks et al., 2010). Another example can be found at the GS JPHCOPH, where a service-learning project supported weight loss among members of an African American church in Bulloch County (Alfonso, Johnson, Hubeny, & Olivas, 2019). Although service-learning work is being incorporated across some graduate programs, this approach is not free from challenges.

The ASPPH has noted that among some of its faculty members, engagement with community service or faith-based organizations happens at a lower level than national organizations such as the National Institute of Health or the Centers for Disease Control and Prevention (ASPPH, 2018). One of the reasons is that service-learning requires additional time to develop relationships between academia and the

community. The faculty initiates most of these collaborations (Drahota et al., 2016). However, fostering these relationships outside the classroom can be a real challenge (Caron, Ulrich-Schad, & Lafferty, 2015). Conflicting time schedules and priorities of the organization can also affect the timeline of the class projects (Greece, DeJong, Gorenstein et al., 2018). Therefore, investment in cultivating the relationships and advanced planning ahead of the class to develop a timeframe is crucial for a successful service-learning project (Ostrander & Chapin-Hogue, 2011). Despite the preparation time challenge, in her review of the literature of the education of public health professionals, Evashwick, Tao, and Bax (2013) found service-learning had been one of the commonly used methods to teach future public health professionals.

Supportive policies at the institutional level are also necessary to encourage service-learning engagement. An institution environment that includes rewards, adds value to the pedagogy of service-learning, structures service-learning as part of the curriculum, and supports the development of faculty's skills in community engagement, is necessary to continue this work (Buckner, Ndjakani, Banks et al., 2010; Hartwig, Pham, & Anderson, 2004; Nokes et al., 2013; Smith et al., 2013; Stevens, 2000). For example, the University of North Carolina at Chapel Hill, has fostered their collaborations at the institutional level. They support initiatives that reward faculty engagement through promotion and tenure, integrate engagement into their master planning, and identify creative ways of collaborating with other departments in community engagement projects. Several case studies have demonstrated the ability to design graduate-level courses with tailored service-learning projects that meet the competencies of core requirements (Santella, 2019). As academia becomes more technologically advanced, the instructional learning platform is also changing; more classes online will require creative ways to integrate service-learning into the curriculum.

As of 2015, the community of online or distance learners increased to about four students taking at least one of their courses online (Allen & Seaman, 2016). This new teaching and learning approach presents unique opportunities for integrating service-learning in virtual classrooms. For example, this new platform has allowed graduate students at the Midwifery Institute of Philadelphia University to engage in service-learning projects to increase awareness of health policy advocacy. The student-focused on issues specifically to midwifery, maternal and child, and or women's health allowed them to learn about the legislative process, engage with local politicians, help raise funding to support policy advocacy at the local level, and one even ran for office (Van Hoover, 2015). Moreover, students at the Southern New Hampshire University's College of Online and Continuing Education (SNHU COCE) collaborated with a selected government or nonprofit organization from within their communities. Additionally, they worked with them on a grant proposal that was submitted for funding (Nugent & Thrippleton-Hunter, 2017). Similarly, our class also focused on grant writing to support a local non-profit organization.

According to Waldner, Widener, and McGorry (2012), E-learning provides students with expanded opportunities to work with organizations that serve the interest

of their community, not restricted to the physical geographical location of the academic institution. Online service-learning can take many forms. For example, it can be structured as a hybrid course, incorporating full online instruction and activities carried out at a physical site, or vice versa; or both the instruction and the service-learning activities done virtually (Waldner, Widener, & McGorry, 2012). Additionally, the students can also engage in the community as consultants who immerse themselves in a particular issue concerning the partner agency or “client,” and both work collaboratively to develop a solution for the matter (Bandy, 2019). Lastly, critical steps for developing courses and syllabi applicable in e-learning settings have been developed (Nurdyke, 2015). The faculty needs to decide how the course will be structured; the goals and objectives for the service-learning project must be clear; the community partners and their needs must be identified, and the number of hours needed for the project must be stated. Other things include knowing the geographical location of partners and students, knowing how to manage the online tools used for the class, assessment, and evaluation of the project, consent forms and confidentially, and a comprehensive review of materials to ensure academic rigor (Nurdyke, 2015).

Furthermore, this reciprocal practice also generates positive rewards for the communities engaged in the process. Some community partners see great value in the skill sets that students bring to their workplaces and have benefited from students’ support to enhance their strategic planning and reshape their vision, mission, and objectives (Birkhead et al., 2014; Comeau, 2018).

Conclusion

The grant-writing course is one example of how to capitalize on the benefits of service learning for students, community, and faculty. As our reflections coupled with findings from prior studies demonstrate, the potential of e-service-learning is endless as a collaborative and multidisciplinary approach to decrease health disparities. Thus, the academic body must work through the various mechanism to decrease the challenges of implementing service-learning in the classrooms or virtual platforms (Buckner, Ndjakani, Banks et al., 2010; Hartwig, Pham, & Anderson, 2004; Nokes et al., 2013; Smith et al., 2013; Stevens, 2000).

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