© Journal of Higher Education Outreach and Engagement, Volume 28, Number 2, p. 81, (2024)
 eISSN 2164-8212

Investigating the Long-Term Impacts of "Place-Rich" Community-Based Learning Experiences on University Students

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Abstract

This study aimed to develop a deeper understanding of the long-term impacts of place-rich community-based learning on university students. This study was informed by transformative learning theory, which recognizes how learning experiences that expand the learner's worldview help develop autonomous thinking. A mixed-methods approach was used to explore the perspectives of graduates who participated in immersive community-based learning (CBL) experiences. Graduates from two programs at the University of Prince Edward Island between 2004 and 2017 completed the Civic-Minded Professional scale online. A subset of respondents were invited to participate in interviews. Students' experiences of dissonance, transformational learning moments, reflection, and civic engagement were also assessed. Key findings include participants' expanded and deeper appreciation for cross-cultural awareness, their more deliberate engagement with volunteer opportunities, and their emergence as advocates for the communities they worked with. Findings will be used to improve, diversify, and develop new CBL experiences for university students.

Keywords: veterinary, nutrition, transformational education, community-based, survey, interview

Preprofessional practice experiences for postsecondary students are designed to develop competence in clinical skills alongside social and emotional aptitudes. However, the vast majority of these experiences take place in settings very similar to the clinics and practice settings where students will be employed following graduation. Opportunities where students are living and practicing in "place-rich" settings, which are culturally, economically, and socially different in substantive ways from typical settings, may impact students' emerging practice perspectives in powerful, transformative ways. There is evidence of the positive impacts of community-based learning (CBL) on graduates' attitudes, levels of community and civic engagement, personal and professional growth, and work-related skills such as professional communication, reflective practice, leadership, and teamwork skills (Bringle & Clayton, 2012; Celio et al., 2011). Students have reported that when it comes to their CBL activities, their cognitive and personal development were stronger motives than the more pragmatic motives of furthering their career, reducing personal guilt, and making friends (Bringle et al., 2011). Providing opportunities for these volunteer activities enables students to achieve an overarching goal of higher education: producing civically oriented and civically involved graduates. A civic-minded graduate is assumed to be "a person who has completed a course of study (e.g., bachelor's degree), and has the capacity and desire to work with others to achieve the common good" (Bringle & Steinberg, 2010, p. 429).

Researchers in CBL have used a variety of quantitative and qualitative approaches to identify and confirm long-term outcomes of CBL experiences on graduates (Fullerton et al., 2015; Hatcher, 2008; Lake et al., 2021; MacFall, 2012; Newman & Hernandez, 2011; Warchal & Ruiz, 2004). Many factors, such as preparation, intercultural competency, and adjustment to new environments and expectations, can contribute to students' academic and practice-related success and their satisfaction with their personal growth and professional development during and immediately after the experience. We also see societal institutions and organizations continuing to emphasize the role of higher education in advancing social development agendas, such as the recommendations of the Truth and Reconciliation Commission in Canada or addressing international inequities and embracing social justice through the United Nations Sustainable Development Goals. Canadians with a university or college education are much more likely to volunteer in their communities than those with a high school education or less (Vézina & Crompton 2012; Munro, 2014). In fact, the percentage of Canadians who are members of a group, organization, or association is increasing, with 78% of university degree holders participating in these types of activities (Turcotte, 2015). Graduates from the programs involved in this study would have many of these opportunities and experiences. We are not aware of any research that focuses on the long-term impacts of CBL for the veterinary or dietetics professions. Given the desire to expand international and intercultural CBL experiences at the University of Prince Edward Island and other higher education institutions, the results of such an assessment can inform recruitment strategies as well as funding and planning to expand and diversify postsecondary CBL in similar professional programs. Professional programs need to consider how CBL experiences such as those in this study impact graduates long-term into their careers and the contributions that may occur as a result.

Relevant Literature

Community-Based Learning

There is an abundant literature noting that students who participate in CBL or service-learning programs demonstrate positive changes in attitudes, civic engagement, social skills, and academic performance, outcomes in keeping with high impact educational practices (e.g., Celio et al., 2011; Kuh, 2008). There is general consensus that CBL can promote critical thinking and civic responsibility if CBL activities (1) are designed thoughtfully with a clear purpose, (2) are relevant to future endeavors of students, (3) address affective dimensions of their learning in ways that deepen the integrity of these experiences, and (4) provide opportunities for ongoing student reflection to develop lifelong habits of engagement (Bringle et al., 2011; Taylor et al., 2015). Concurrently, there is research that suggests that CBL is an amalgam of approaches drawing from experiential education, action research, critical theory, adult education, and social justice education, among others (Butin, 2006). Further, some studies characterize the learning in short-term immersive settings as thin and nonsystemic (Hansen & Clayton, 2014), where learners are characterized as "visitor/tourists" (Miller, 2015, p. 227). More recent studies have built on this work by examining deep learning (Ibrahim et al., 2016; Nelson Laird et al., 2008). However, scholars have suggested that attending to intercultural aspects of place, regardless of the duration of the CBL experience, can promote deeper and more critical engagement of students with the complexities, identities, and values of local lived experience, as well as the broader historical, political, ecological, and cultural forces shaping these CBL contexts (Siemers et al., 2015).

Advocates for CBL with critical, civic, and social justice orientations (e.g., Mitchell, 2008; Rice & Pollack, 2000; Zlotkowski, 1995) encourage students to see themselves as agents of social change using their CBL experiences to address and respond to injustice in communities while working as partners in authentic relationships. This community participation would be consistent with contemporary models of civic engagement for higher education outlined by Bringle and Clayton (2012). In Whitley and Yoder's (2015) comparison of curricular civic engagement, extracurricular civic engagement, and participation in a living-learning community, they found that all three CBL approaches increased students' civic engagement attitudes and behaviors; however, due to the voluntary nature of extracurricular engagement, this approach had greater impact. In a study examining students' civic-mindedness and orientation to philanthropy, Hatcher and Studer (2015)

found that when students had a choice of where they engaged in CBL activities, this choice led to greater student engagement and understanding of that nonprofit sector and its social issues, and higher student willingness to volunteer in other community activities. Such flexible visions of civic engagement encourage students in professional programs to move beyond just being participatory citizens and encourage the development of tools and skills that enable students to recognize and address social inequality through critical consciousness (Westheimer & Kahne, 2004). This development involves "opening professional eyes and imaginations to the civic responsibilities and possibilities of their work" (Peters, 2004, p. 49). Settings different from those where new professionals are most likely to practice upon graduation, such as those involved in place-rich approaches to CBL described by High et al. (2015), can be viewed as potential routes to deeper civic learning and social awareness. Place-rich CBL extends past place-based levels of engagement, which focus on the location, to a place-engaged orientation where place is considered as a partner shaping the CBL experience and contributing significantly to potential impacts. According to Siemers et al. (2015), a place-engaged CBL experience has four guiding principles: (a) integrating ecological perspectives and values, (b) incorporating diverse ways of knowing and being embedded in distinct places, (c) taking seriously the power of story to make meaning and build community, and (d) grappling with contradictions and tensions that often surface when we realize that the past is always with us as a living legacy.

Research Rationale

Studies have demonstrated that CBL and service-learning experiences during university have a lasting consequence because students are likely to continue volunteering as graduates (Sax, 1997). Although there are some studies of longitudinal impacts of CBL (e.g., Carlisle et al., 2017; Clayton et al., 2013; Finley & McNair, 2013; Hatcher et al., 2017; Kiely, 2004, 2005), to our knowledge, the longer term impact of short-term immersive CBL experiences in settings that are culturally, economically, and socially different for students, such as those described later in this article, has not been a focus in the research literature. We do not have a clear understanding of the long-term outcomes for these graduates as they move into their professional careers. For example, we do not understand the impact of awareness and action tensions of graduates and community members as the graduates struggle to enact change arising from what they learned during their CBL experiences, a phenomenon that has been referred to as the chameleon complex (Kiely, 2004). Such gaps in the literature reinforce the crucial need for follow-up research to determine the long-term impacts and contributing factors of place-rich CBL, which can provide lessons learned for future CBL experiences. Such guidance will optimize benefits to students, the communities and populations they serve, as well as their professions and broader society following graduation.

Theoretical Foundations

Two theories believed to be most relevant to this examination of the civic journey of students in place-rich CBL experiences are transformative learning theory and self-determination theory. Transformative learning theory looks at learning as a process of effecting change through the assumptions within which we understand experiences. Transformative learning is said to occur in three dimensions: psychological (changes in understanding of self), convictional (revision of belief systems), and behavioral (changes in lifestyle). Frames of reference can be transformed through critical reflection on the assumptions upon which students' interpretations, beliefs, and habits of mind or points of view are based. CBL experiences can serve as opportune occasions for university students to become aware and critical of their own and others' assumptions, with chances for them to redefine problems from a different perspective and develop autonomous thinking skills while being supported in critical reflection and discourse (Mezirow, 1997). However, to be effective, transformative pedagogy through international service-learning must focus on enabling and motivating students to relate to the community through experience in order to promote transformation and understanding (McKee, 2016). Self-determination theory provides a framework for examining the internalization of a student's motivation while helping to understand the interplay between the environment and their internal motivation and engagement through the development of a sense of relatedness, competence, and autonomy in their learning activities (Deci et al., 1999; Deci & Ryan, 2000). Coupling

these two theoretical perspectives served as the basis for this examination of the long-term impacts of place-rich CBL experiences.

Research Context

At the University of Prince Edward Island in Canada, instructors have coordinated three immersive CBL experiences for students for many years.

The Chinook Veterinary Rotation is a 1- to 2-week senior-year clinical course that provides essential veterinary care to remote, mostly Indigenous communities in Canada's north. The senior year of the veterinary program is divided into modules of 1-, 2-, or 3-week practical rotations. Since 2006, each year, with the exceptions of 2020 and 2021 due to travel restrictions, the Chinook project has responded to requests from northern communities, taking two to four volunteer veterinarians and technicians and four to eight students in a veterinary medicine program to the community for 3 to 10 days. While there, they set up a temporary veterinary clinic and offer spaying/neutering, vaccinations, and deworming, primarily for dogs, as well as providing other veterinary care as needed. Unique and integral parts of the project experience are the creative nonfiction pieces that participants develop and publish in the year following their experience, based on their project journals.

International Smallholder Dairy Health Management Rotation is a 3-week senior-year clinical course that has been offered every year since 2004, although no students were able to participate in this course in 2008 and 2021 due to travel restrictions. The course provides practical experience, in the context of an international development project, for three veterinary medicine students on the diagnosis, treatment, and prevention of common animal diseases and dairy management problems encountered in Kenya. A local nongovernmental organization (NGO), called Farmers Helping Farmers, partners with the university and local Kenyan farmer groups for this experience. In most years these students are joined by three to six Kenyan veterinary medicine students from the University of Nairobi. Collaboratively these students write three blog posts published on the website of the NGO partner, develop and maintain a case log of daily cases, and write a new chapter for a handbook for local smallholder dairy farmers related to an important topic they observed that was not in the handbook at that time.

International internships have also been offered to preclinical students in veterinary medicine and senior students in human nutrition to live and work in rural Kenya for 8–12 weeks during the May to August semester. Starting in 2008 and 2010, respectively, students became engaged in training and research related to veterinary medicine and human nutrition initiatives with Canadian and Kenyan partner organizations. Veterinary medicine students were involved with a variety of nutrition and animal welfare research projects for dairy cows and calves, while the human nutrition students were involved in food-based education with local women's groups and schools. Using a train-the-trainer model, activities were designed to reduce micronutrient malnutrition as part of a population health internship placement or a directed studies academic credit. The same local NGO partners with the university for this experience, along with local Kenyan farmer groups, women's groups, and schools. These students write weekly blog posts that are shared through the NGO website and social media accounts.

These three opportunities accommodate four groups of students: (1) senior veterinary students enrolled in a clinical course in northern Canada ("Chinook Vet Rotation" group), (2) senior veterinary students enrolled in the clinical course in Kenya ("Kenya Senior Vet Rotation" group), (3) preclinical veterinary students engaged in veterinary medicine and research activities in Kenya as an independent studies course ("Kenya Vet Medicine and Research" group), and (4) senior nutrition students engaged in nutrition and food security activities in Kenya as an independent studies course ("Kenya Nutrition and Food Security" group). To date, there has been no assessment of the long-term impacts of these CBL experiences on the perspectives, lives, and professional practices of the four groups of students involved in these place-rich CBL opportunities.

Prior to their departures, the selected students engage in orientation sessions where they learn about the region and the specific communities—the history, climate, socioeconomic realities, common cultural practices, languages, health and safety concerns, and agricultural systems (where

applicable). Students also participate in focus group debriefing sessions devoted to assessing their improvements in program-related competencies and collecting their perspectives on the overall CBL experience. The CBL experiences described above have a strong "place-rich" dimension that make them very different from typical clinical experiences in veterinary schools or nutrition care placements focused on population and public health in human nutrition/dietetics programs.

Research Objectives and Questions

Our main objectives for this study were to develop a deeper understanding of the intermediate- and long-term impacts of place-rich CBL experiences on university students, and to explore whether these experiences lead graduates to become involved in professional organizations, their local and/or global community, or promoting social justice and sustainable development after graduation. The following were our research questions.

> In what ways are graduates engaged in civic activities in their personal and professional lives 2 to 14 years following their CBL experiences in place-rich communities?
>
> How do graduates describe the impact of their CBL experiences in place-rich communities 2 to 14 years later?

Methods

This study received approval from the Research Ethics Board of the University of Prince Edward Island prior to the start of the study.

Recruitment of Survey Respondents and Interview Participants

The sampling frame consisted of graduates who had been participants in any one of the four CBL experiences of interest at the university 2004–2017. Recruitment and data collection consisted of two phases, a quantitative survey phase and a qualitative interview phase. All graduates of the CBL experiences 2004–2017 were eligible to participate in the quantitative phase of the study, a 15-minute online survey. The recruitment process for the online survey included one or more of the following: (a) email invitations where active email addresses were available, (b) sharing through the Chinook course blog, and (c) sharing through social media (e.g., Facebook, Twitter). Recruits were provided with an invitation to participate and information on the research project. Graduates who had participated in both a Kenyan experience and a northern Canadian experience could choose to complete the survey for both experiences or only one experience. As the Kenyan experience was primarily agricultural in nature and the northern Canadian experience was primarily dog-oriented, only two students were known to be involved in both experiences.

Participants for the qualitative phase of data collection consisted of survey respondents who responded to the invitation to participate in an interview at the end of the online survey. From this sampling frame, participants from each of the four groups (n = 20 in total) were selected to represent the different CBL experiences and were invited to participate in a telephone/internet interview. Purposive maximum variation sampling (Patton, 2015) was employed to ensure participants reflected all the various CBL experiences being explored in this study. For confidentiality, self-identified respondents to the online survey and participants in the interviews were identified by pseudonyms in the database.

Measures

The online survey utilized questions from the 26-item Civic-Minded Professional scale (Hatcher, 2008), with the addition of some demographic questions to describe the respondents. Most of the survey questions asked the respondents to indicate their level of agreement with a statement. Example statements included "I keep very well informed about current issues of social justice" and "I am currently active in one or more non-profit organizations related to my profession/career." Response options consisted of a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). There were five yes/no questions as well, inquiring about respondents' following of local, national, and international current events and volunteer activity within their communities.

Using Fullerton et al. (2015) as our basis, we developed an interview guide to explore how participants now understand changes that occurred during or immediately after their CBL experience, as well as any subsequent impacts that have occurred over time.

Data Collection

A research consent form was presented to each person who agreed to be a participant prior to starting the online survey and again prior to each interview. All survey respondents were offered the opportunity to be entered into a drawing for one of fifteen $20 gift cards. Selected interview participants were contacted by their preferred method, including phone, WhatsApp, or Skype. Interviews lasted 30 to 60 minutes (45 minutes on average), and interviewees were also offered the opportunity to be entered into a drawing for one of ten $20 gift cards. The same team member conducted all the interviews. Interviews were digitally recorded to allow for transcription and qualitative analysis. Survey respondents' emails were collected if they wanted to (a) be in the drawing for the incentive gift cards, (b) receive the final report for this study, and/or (c) participate in interviews.

Data Analysis

Data handling involved coding for survey Questions 1 to 23, using the response scale 1 (*strongly disagree*), 2 (*disagree*), 3 (*disagree slightly*), 4 (*neither agree nor disagree*), 5 (*agree slightly*), 6 (*agree*), 7 (*strongly agree*). Coding for Questions 24 to 26 included the responses 0 (*no*), 1 (*yes*). A data dictionary was developed for this coding, along with the demographic variables (available upon request). The survey data were imported into Excel and checked for errors or data that did not make sense. For quantitative analyses of these survey data, descriptive statistics were calculated (means and proportions for ordinal and dichotomous data, respectively) for each study group and for the study population as a whole. The four group results were compared using analytical statistics (ANOVAs and chi-square tests).

Interviews were transcribed and shared with participants for member checking. For qualitative analyses, a first round of open coding was conducted by four team members to generate initial codes in the data. Initial codes were discussed by team members to reach consensus on coding and write definitions for each code. Using the coding framework, another round of coding was conducted to ensure initial coding met the coding consensus and to identify themes. Further review of codes and refinement of themes was performed prior to final analysis and writing of findings (Nowell et al., 2017).

Rigor

Careful consideration was given to procedures that would enhance the rigor and trustworthiness of the qualitative findings by addressing accepted standards in the design, data analysis, and reporting of results (Patton, 2015). First, authors ensured the presence of an audit trail by systematically documenting processes and materials (Freeman et al., 2007; Patton, 2015). Second, interviewees were given the opportunity to review and revise their transcribed interviews. Third, sensitizing concepts were used during the data analysis to organize the data and make informed decisions about the significance and importance of findings (Patton, 2015). Fourth, recognizing our positionality with respect to the research, coauthors' prior experiences were acknowledged during the analysis, a process that can help readers understand how data were interpreted (Freeman et al., 2007; Merriam, 1995). All authors are interested in CBL, and three have traveled with students as they engaged in these CBL experiences. Fifth, to reduce bias in data analysis, three team members analyzed the qualitative data independently before collaborating in order to reduce the possibility of imposing individual biases and influence on other team members' interpretations. Sixth, reliability was addressed through constant comparison of findings during data analysis and through discussions with other team members (Merriam, 1995) and data triangulation (Patton, 2015). Seventh, member checks were conducted by emailing participants the transcript of their interviews, with 19 participants responding to the member check and no participants requesting modifications to their transcript. Finally, in presenting the qualitative findings for this study, thick descriptions and rich quotations are provided to allow readers to determine whether findings from this study are applicable to their own contexts (Merriam, 1995; Patton 2015).

Results and Findings

Online Survey

A total of 66 out of 124 (53%) invited graduates completed the online survey. The response rates for each of the four groups ranged from 41% from the Chinook Veterinary Rotation group to 91% in the Kenyan internship groups (both veterinary and nutrition). There were 11, 11, 20, and 24 respondents in the Kenya

Vet Medicine and Research group, Kenya Nutrition and Food Security group, Kenya Senior Veterinary Rotation group, and the Chinook Veterinary Rotation group, respectively.

Reflecting the gender of the invitees, 80% of the respondents self-identified as female. Over half (52%) graduated in 2004–2012, with the International Smallholder Dairy rotation group graduation years being slightly older, reflecting the earlier start to this program. There were no differences in demographics between the four groups, or between respondents and those invited to participate in the study ($p > 0.25$).

Table 1 provides a color-coded overview of the average responses for each question, for the whole study population as well as by study group, with a legend at the bottom describing the meaning of the colors. Visually, it is easy to notice where the respondents agreed more with some questions (blue and dark green) than others (light green and yellow). Given that the statements are all positive in nature, higher agreement indicates more positive impacts than lower agreement.

For the first 23 categorical questions, respondents had lower levels of agreement with Statements 2, 3, 11, 13, and 20. Statements 2, 13, and 20 relate to the respondents' self-perceived levels of knowledge on social justice, nonprofit organizations, and volunteer opportunities in the community; Statements 3 and 11 relate to the respondents' level of political/citizen engagement and recruiting others for citizen engagement. Conversely, respondents had higher levels of agreement with Statements 4, 6, 12, and 15. Statements 6 and 15 relate to the respondents' belief that people should use their education and knowledge to serve/volunteer in the community. Statement 4 relates to the respondents' self-perceived ease with working with people with diverse ethnic backgrounds, and Statement 12 demonstrates the respondents' self-perceived level of passion for their work.

For the yes/no questions (Questions 24–26), respondents answered "yes" more often for Statements 26b and 26c, but less often for Statements 24, 25, and 26a. Statements 26b and 26c relate to self-perceived knowledge and keeping up with national and international news; 26a relates to northern Canadian news. Regarding Statement 24, "I am currently active in one or more non-profit organizations related to my profession/career," only 51% indicated "yes." However, when that question was specified to "I am currently active in one or more non-profit organizations not related to my profession/career," Statement 25, only 32% indicated "yes."

For some statements, responses were heterogeneous among the groups. Whereas 95% of respondents either "agreed" or "strongly agreed" with Statement 4, "Others I work with would likely describe me as someone who is at ease working with people from diverse ethnic backgrounds," only 30% of the Kenya Senior Vet Rotation group strongly agreed with this statement, but the other three groups stated they strongly agreed 55–71% of the time and this difference approached statistical significance ($p = 0.06$; Table 1). Only 45% of respondents from the Chinook Vet Rotation group said they agreed at some level with Statement 2, "I would describe myself as a politically active and engaged citizen," whereas at least 60% of the other three groups at least slightly agreed with this statement (Figure 1). None of the respondents in the Kenya Vet Medicine and Research group agreed or strongly agreed with the statement "Others would likely describe me as a person who is well informed about a variety of volunteer opportunities in the community," whereas at least 25% of the other three groups agreed or strongly agreed with the statement (Figure 2). Similarly, 9% of respondents in the Kenya Vet Medicine and Research group agreed or strongly agreed with Statement 23, "I am aware of many opportunities to use my skills and abilities in community, voluntary, or pro bono service," whereas at least 36% of the other three groups agreed or strongly agreed with the statement (Figure 3). Statement 24 had substantial differences in response proportions between groups: To the statement "I am currently active in one or more non-profit organizations related to my profession/career," the Kenya Senior Vet Rotation group said "yes" 70% of the time, but the two Kenya intern groups said "yes" only 36% of the time.

Interview Findings

As expected, interview participants spoke at

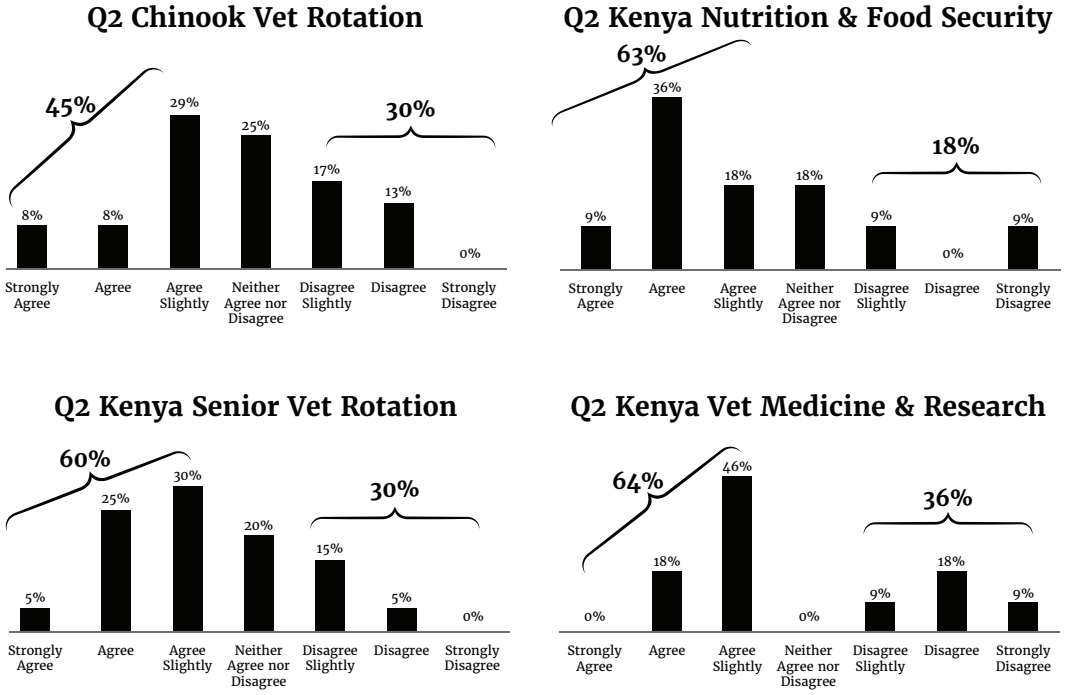
Table 1. Color-Coded Table of the Average Responses for Each Question, for the Whole Group of 66 Respondents, and by Group

Question Number	Kenya Nutrition Intern Course	Kenya Veterinary Intern Course	Kenya Veterinary Rotation Course	Chinook Veterinary Rotation Course	All Respondents Combined	ANOVA *p*-value
1	6.18	5.90	5.65	5.79	5.83	0.43
2	4.81	4.09	4.7	4.29	4.47	0.56
3	5.18	4.64	4.8	4.75	4.82	0.79
4	6.55	6.64	6.00	6.67	6.44	0.06
5	5.73	5.55	5.45	5.62	5.58	0.89
6	6.09	6.09	6.30	5.92	6.09	0.64
7	4.82	4.64	5.05	5.00	4.92	0.77
8	5.73	5.91	5.90	5.88	5.86	0.97
9	4.91	4.55	5.40	5.33	5.15	0.33
10	5.55	5.64	5.60	5.75	5.65	0.97
11	4.55	5.00	4.75	4.54	4.68	0.66
12	6.09	5.55	6.05	6.13	6.00	0.43
13	5.00	4.00	4.65	4.58	4.58	0.37
14	6.09	5.82	5.42	5.38	5.58	0.20
15	6.27	6.27	6.10	6.13	6.17	0.89
16	4.82	5.18	5.25	5.25	5.17	0.84
17	5.91	5.82	5.79	5.67	5.77	0.96
18	5.91	5.18	5.53	5.38	5.48	0.48
19	5.91	5.45	5.85	5.79	5.77	0.82
20	5.09	4.73	4.55	4.96	4.82	0.66
21	6.27	5.45	5.85	5.79	5.83	0.27
22	5.64	5.64	5.85	6.04	5.85	0.37
23	4.73	4.36	5.20	5.13	4.95	0.40
24	0.36	0.36	0.70	0.50	0.51	0.20
25	0.55	0.27	0.40	0.21	0.32	0.22
26a	0.36	0.45	0.20	0.38	0.33	0.48
26b	0.91	0.55	0.80	0.75	0.76	0.24
26c	0.82	1.00	0.70	0.71	0.77	0.22

Color coding legend:

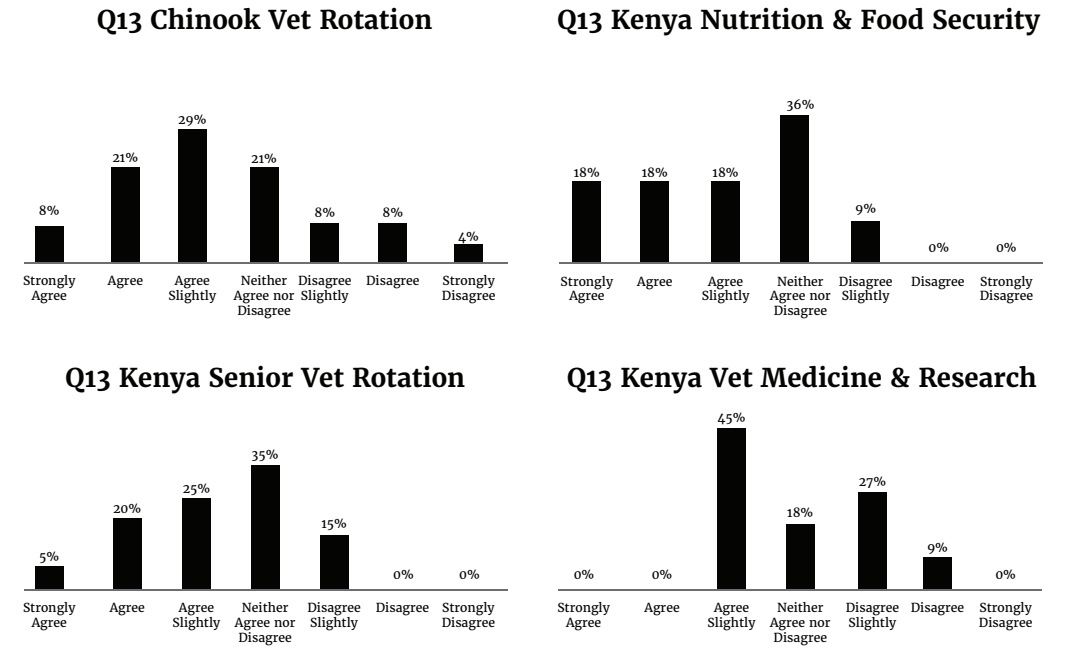
	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7
Agreement							
	0 to 0.2	0.2 to 0.4	0.4 to 0.6	0.6 to 0.8	0.8 to 1		

Figure 1. Descriptive Statistics of Responses to the Statement "I Would Describe Myself as a Politically Active and Engaged Citizen," by Study Group



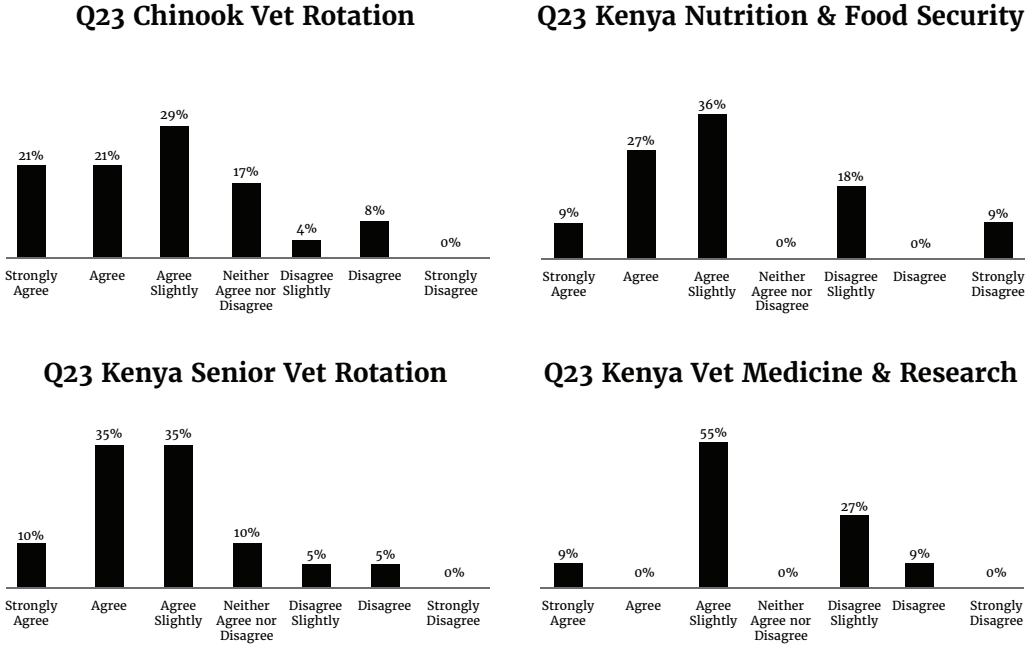
Note. Not all percentages total 100 due to rounding.

Figure 2. Descriptive Statistics of Responses to the Statement "Others Would Likely Describe Me as a Person Who is Well Informed About a Variety of Volunteer Opportunities in the Community," by Study Group



Note. Not all percentages total 100 due to rounding.

Figure 3. Descriptive Statistics of Responses to the Statement "I Am Aware of Many Opportunities to Use My Skills and Abilities in Community, Voluntary, or Pro Bono Service," by Study Group



Note. Not all percentages total 100 due to rounding.

length about the transformational nature of their CBL experiences in Kenya or northern Canada. Findings presented here focus on the place-rich dimensions and impacts of these CBL experiences and how participants described the ways their experiences have continued to influence them over time, both personally and professionally. Through analysis, this distilled down to three main themes: expanded and deeper appreciation for cross-cultural competence, more deliberate engagement with volunteer opportunities, and emerging as advocates.

Expanded and Deeper Appreciation for Cross-Cultural Competence

Participants commented that despite various preparatory sessions prior to departure for their CBL placement, they had limited cultural knowledge and understanding in the moment, but they recognized the lasting impact of these CBL experiences over time. "I really appreciate how little I do know about it [living in a northern Indigenous community], how complicated that history is, and once again, just having some firsthand experience acknowledging that was very valuable, and always will be" (Participant 23—Chinook Vet Rotation). In addition, participants spoke of the ways that their CBL placement influenced their developing cross-cultural competencies at the time of their placement and later, as they embarked on their careers in their respective professions, sharing insights such as "I think it made me think about things in a different light. It made me, maybe not jump to conclusions quickly. . . . And, I think that kind of came a lot from the learnings there, just living in that different culture" (Participant 19—Kenya Nutrition and Food Security). Participants shared examples of experiences where they gradually came to develop a broader, more critical and inclusive perspective. For example, Participant 23 (Chinook Vet Rotation) said:

> It was so difficult to engage the kids because they just saw dogs in different ways and they were talking about kicking them sometimes, and that sort of thing. It made me a little bit sad, but also, I think it was good to hear that and understand why they might feel that way. Dogs there are sometimes rabid or feral or dangerous; they have to be careful. That's part of it too.

A second example reflected participants'

deeper awareness of resilience and the positive aspects to life in the communities, despite differences in expectations relative to the standard of living. Resilience in the face of social and economic hardships that residents faced on a daily basis was illustrated by the following:

> I stayed with this family who walked to work an hour and half both ways every day. They have no electricity, no running water. They get up in the middle of the night and milk their six cows by hand at two o'clock in the morning . . . they've watched their family members die of AIDS right in front of them. You know they don't have a lot. And by our standards we would say they have nothing, and yet they are gracious and giving and happy. (Participant 50—Kenya Senior Vet Rotation)

Participants also noted ways that these CBL experiences changed the trajectory of their thinking, remarking on their increased awareness.

> I think a lot of people in northern Labrador are in tough situations and in various northern communities, probably across Canada. I don't think it is necessarily that I put into any concrete practice trying to make a change there. I think it's more of an ideology that's changed, recognizing that in this country, that I think is wonderful, there are a lot of people who have a hard time. Maybe it just brought that to light for me. (Participant 14—Chinook Senior Vet Rotation group)

Interview participants shared how their CBL experiences led to broader and deeper understanding of community and cultural issues (both current and historical) and systemic interconnections, acknowledging their previous lack of knowledge and gradual changes in their perspectives that surfaced over time from their CBL experiences. Impacts on their cross-cultural awareness and competencies as new professionals led them to emerge as advocates.

More Deliberate Engagement With Volunteer Opportunities

When asked about their engagement with volunteer activities in the years following their CBL experiences, several participants referred to their strong predisposition toward civic engagement and volunteerism with statements such as

> I think I always had some drive to volunteer, to get active in the community, even before my trip to Labrador. I think that's interconnected, the thing in me that made me want to go to Labrador in the first place. (Participant 14—Chinook Vet Rotation)

However, as participants elaborated on their volunteer activities, the influence of these CBL experiences for some participants became evident. The experiences were contributing to their decisions to dedicate their time and energy to other volunteer initiatives, and they were becoming involved in new, challenging roles that they might have delayed until later in their careers.

> I started working with Farmers Helping Farmers, which was one of the partner organizers for my placement in Kenya. After coming back, they asked if I wanted to continue to work with them, and I said yes. So now I'm on their board of directors, continuing my volunteer work. (Participant 24—Kenya Nutrition and Food Security)

CBL experiences also contributed to participants' capacity to work with various organizations, as Participant 3 (Kenya Nutrition and Food Security) explained: "Later, I participated on more boards and committees . . . having that early exposure really helped later on when I was on more committees." In addition, participants spoke about being more discerning in their choices around the volunteer efforts they undertook. One clearly articulated example came from Participant 19 (Kenya Nutrition and Food Security), who said:

> I guess that's probably the biggest thing I got from the Kenya experience, was really being able to look at volunteer opportunities and which ones are more meaningful than others. Which ones are gonna actually be sustainable, which ones

> are actually gonna make change versus what makes you feel good. Those are two different things. And, I think that's where that experience really helped.

Emerging as Advocates

The third theme connected to some of the longer term impacts of these CBL placement settings that were so different from those where participants would typically train and work. Their CBL experiences allowed them over time to look beyond their awareness and understanding of issues as allies and move toward action, where they became advocates. "I now advocate more for those small communities, those remote communities, that don't have access to veterinarians. I'm hoping to go back on another Chinook project trip . . . with other organizers of spay and neuter clinics" (Participant 2—Chinook Vet Rotation). This same participant later said,

> I can carry on a knowledgeable conversation about it [issues and concerns of residents in northern communities], having been there before. And I've kept ties with one of the host families. I guess I will continue to get information about the sort of things that are happening in that area.

Another example of how participants' place-rich CBL experiences have had longer term impacts has been in their examination of issues of power and privilege. Although the data for this study were collected prior to the explosion of awareness in 2020 with the Black Lives Matter movement, participants spoke of their own engagement with these issues. For example, Participant 15 (Kenya Nutrition and Food Security) shared:

> I would say, also, on the point of White privilege or power, I think it did give me, when I started to read and research and think about myself as a White person in this world, more context and what that actually means, and the types of power structures that I have access to just because of my skin color. . . . I don't know if it's really helped me so much in an applied sense, but it's really more theoretical, sort of a worldview where it kind of impacted me later.

Discussion and Implications

This study is one of a growing number of research studies examining the CBL experiences of graduates using both a quantitative and qualitative approach to gain a more holistic understanding of the long-term outcomes. Our findings reinforced and expanded upon the small number of previous research studies specifically focused on long-term effects of CBL experiences (e.g., Fullerton et al., 2015; Lake et al., 2021; Warchal & Ruiz, 2004). Many important impacts of CBL are formative and realized long after the experience; consequently, longitudinal research studies examining CBL impacts in the longer term are crucial (Polin & Keene, 2010). Key findings in this study revolve around participants' expanded and deeper appreciation for cross-cultural awareness, their more deliberate engagement with volunteer opportunities, and their emergence as advocates for the communities they worked with and served. These findings reveal a variety of implications for postsecondary programs offering CBL opportunities, such as those in this study, to students in professional programs. The CBL settings for this study, in remote communities in northern Canada and in small communities in rural Kenya, meet the four criteria for place-rich CBL described by Siemers et al. (2015). Our findings affirm that this approach to CBL can contribute in substantive ways to intermediate- and longer term impacts on individuals, as participants talked about their learning about communities, societal structures and systems, and living landscapes and how this appreciation often emerged well after the end of their CBL placement and grew stronger over time. Below we discuss a variety of ways that researchers and practitioners may use these results to ensure positive outcomes for students and the place-rich communities that partner with them.

The quantitative results revealed some high and low agreement among respondents, and some homogeneous and heterogeneous responses among the groups. For example, there were indications of high levels of cultural awareness and competence in survey items related to working with individuals from diverse ethnic backgrounds and the degree to which participants follow current events. These survey results were confirmed through interview descriptions of the gradual evolution in their perspectives over time from their CBL experiences and impacts on

their cross-cultural awareness and competencies as new professionals, findings consistent with previous studies (Diaconu et al., 2018; George-Paschal & Saviers, 2016). High degrees of awareness and engagement with civic issues at local and global levels in ways that reflected the complexities of the partner communities were expected. Programs, professional associations, and employers should consider ways to assist new graduates in applying and/or transferring the knowledge and understanding gained from their CBL to their professional practice, and support actions to employ and share their emerging insights within their new professional community. In closer examination of the smaller subgroups, we expected to see Chinook Vet Rotation participants indicate that they follow current events from northern Canada more than the other participants who went to Kenya follow current events there, but this was not the case. We speculate that some of the group differences observed in the results of the online survey could reflect that participants who graduated more recently may have still been engaged in postdegree programs, such as internships, residencies, or graduate programs, leaving limited time to pursue other ventures. Another explanation could include participants' living outside Canada, where current events from northern Canada are not readily available through the avenues they use to keep current with news and current events. Other differences in their volunteer activities might be expected as a result of their life stage, with demands arising from new careers or young children consuming a good deal of their attention and energy.

Value of Place-Rich CBL for Emerging Professionals

Studies have clearly confirmed that students who engage in service as undergraduates develop a greater commitment to civic involvement in the years following graduation, regardless of their preuniversity inclination to become involved in volunteer activities (Bringle & Steinberg, 2010; Ma Hok-ka et al., 2016; Sax, 1997). CBL experiences also serve as a means for students to internalize a sense of social responsibility (Newman & Hernandez, 2011). Survey results and interview comments from this study are consistent with these findings, with participants stating that their CBL experiences spurred them to be more discerning and open to volunteer opportunities that they might otherwise have delayed. Valuing the local lived experience has been raised as an effective means for deeper and more critical engagement (Siemers et al., 2015). In a review of international service-learning projects, McKee (2016) noted that CBL projects where students are learning with and from the community become more than just service to a community; the project becomes a relationship-forming task where everyone involved has opportunities to learn about each other, and students can develop deeper understandings that they do not have all the resources and answers. Relating with a place-as-partner perspective rather than just as a location can provide students with a broader appreciation for how places themselves play key roles in shaping the substance and process of their CBL experience (Siemers et al., 2015).

Nonreflective Modes of Learning and Tensions in Moving From Awareness to Action

The important role of debriefing and critical reflection to help participants place their experiences into context is well established in CBL and service-learning (e.g., Ash & Clayton, 2009; Bringle & Hatcher, 1999; Kolb, 1984). However, some researchers of CBL and service-learning have challenged the primacy of constructivist-led critical reflection in promoting action when critical reflection occurs in the classroom away from the community (Kiely, 2005). Studies have found that nonreflective modes of learning, such as collaboration with the community, caring, relating, and listening, can lead to action, as these personal connections help students bridge their experiences (Kiely, 2005; King, 2004; McKee, 2016). Collaboration with the community, caring, relating, and listening are ways of connecting with a community that do not require critical reflection (Kiely, 2005). These attributes were noted as part of the place-rich CBL experiences included in this study, given the types of preprofessional learning and research activities students pursued during their CBL placements. To maximize the effectiveness and longer term impacts of place-rich CBL, students need opportunities to relate and collaborate with community members in multiple ways, rather than relying on critical reflection alone. As professionals-in-training, participants in this study were able to practice these important ways of learning in place-rich settings that were unfamiliar, and very

different from the typical training settings they would encounter in Canada. Learning to work in meaningful partnerships with individuals and communities requires openness to varied perspectives and sensitivity to historical experiences, which when coupled with critical reflection activities, can augment the positive outcomes for all relationships described in the SOFAR model (Bringle et al., 2009). Our findings were consistent with those of other studies (e.g., Clayton et al., 2013, Nickols et al., 2013 . Paying attention to intercultural aspects of place has been suggested as a way students can achieve deeper and more critical engagement with the complexities, identities, and values of local lived experience as well as the broader historical, political, ecological, and cultural forces shaping these CBL contexts (Siemers et al., 2015). Being attentive to these nonreflective ways of learning can build capacity for action among new professionals, such as the foods and nutrition and veterinary medicine students participating in this study.

Many studies have noted that critical reflection is a crucial element to support students as they move from reflection into action (e.g., Kiely, 2004, 2005; King, 2004); however, students often find themselves in a strange place between awareness and action. The need for change is acknowledged, but they encounter challenges in the process of enacting that change, based on what they learned during their CBL experiences (Cabrera & Anastasi, 2008; Kiely, 2004). Time for deeper reflection and processing along with repeated opportunities to apply their new knowledge and awareness in varied settings may be ways to support students working through these disconnects that Kiely (2004) has labeled the chameleon complex. Further engagement through nonreflective modes of learning may support deeper reflection and ultimately help participants move toward action and change.

Limitations

As a pilot study this research does acknowledge several limitations. One limitation is the small number of participants for each of the four study groups. This group sample size restricted the statistical analyses employed for comparing responses between groups. A larger study would help to determine if there truly are differences between such groups. Another limitation is not including a group that did not participate in place-rich CBL experiences. A future larger study comparing the civic engagement of graduates who did not participate in place-rich CBL experiences with those who did would provide a more robust understanding of differences and similarities between these two groups of graduates. We also recognize that the preparatory sessions for the groups working in northern Canada and those in Kenya differed and evolved over time. Those traveling to Kenya had three to five half-day workshops with sessions to familiarize them on sociocultural and linguistic context, safety concerns, food, and more. Participants in the Chinook Vet Rotation had three to five preparatory sessions with training on vaccination protocols and treatment of common medical problems including parasite control, in addition to anesthetic and surgical techniques. They also spent time learning about sociocultural awareness, as well as travel, food, and lodging logistics. During the CBL placement, some participants had the opportunity to stay overnight with a local family or participate in local events and activities (e.g., religious services, an agricultural fair); others did not. We do not know how some of these particular experiences impacted our findings. The different degrees of involvement in day-to-day community activities may have led to different perceptions of the community and ultimately long-term outcomes. Finally, there were differences in the length of time that participants spent in these place-rich communities, ranging from 1 to 12 weeks. Research has shown that transformative impacts are stronger when students spend longer periods of time immersed in their CBL settings (MacFall, 2012).

Future Research

This exploratory study highlights the importance of long-term follow-up and the need for larger samples. One challenge for a mixed-methods study such as this is that the statistical analyses cannot dictate how many students are selected to participate; this is determined by factors such as funding and community capacity. The Civic-Minded Professional scale (Hatcher, 2008) draws out notable details, but when the sample is small, other research designs might be more appropriate. A study examining graduates who have participated in place-rich CBL and comparable peers who did not could yield very helpful data for understanding the long-term impact of these learning experiences. Alternatively,

a more in-depth qualitative study might provide richer insights into the long-term impacts. In addition, future studies could explore whether the long-term impacts of place-rich CBL experiences include gender differences.

Conclusion

This study has generated new knowledge and understanding of the lasting impacts of CBL in place-rich settings on the civic engagement and professional practice perspectives of graduates from these two professional programs in veterinary medicine and dietetics. Many important impacts of CBL are formative and realized long after the experience, reinforcing the critical importance of longitudinal research and studies examining CBL impacts in the intermediate and longer term (Polin & Keene, 2010). Even though they had not fully realized it at the time of their CBL experience, participants in our study clearly felt that, in retrospect, development of their critical awareness of communities, societal structures and systems, the importance of their ongoing civic engagement through volunteer activities as a professional, and how to be an advocate were among the deepest learnings of their CBL experience in these place-rich communities. Decision makers might keep these benefits in mind during selection and orientation processes and explore opportunities for participants to engage in structured reflection at various points during and after the CBL placement. This study has made an important contribution to the literature examining the intermediate and long-term impacts of CBL by using methods (i.e., open-ended interviews and thematic analysis) recommended by other researchers to address gaps in knowledge (Fullerton et al., 2015). This study also probed participants' current levels of civic engagement and volunteer activity in relation to their experiences of dissonance, moments of transformative learning, and opportunities for reflection stemming from their CBL placement. Given the potential for positive long-term implications, an increased number of similar opportunities for students should be considered as part of their university studies.

Acknowledgments

The funding support provided by the Internal Research Grants program at the University of Prince Edward Island to conduct this study is gratefully acknowledged. The authors thank Cecia Huang, Elizabeth Rendell, and Han Xu for their work as research assistants on the project, as well as the participants in the project for their time and thoughtful sharing of their CBL experiences.

Ethics Declaration

The research reported in this paper received ethics approval from the Research Ethics Board at the University of Prince Edward Island, Certificate # 6007644.

Declaration of Interest

None of the authors have a conflict of interest.

Funding

This study received funding through the Internal Research Grants program at the University of Prince Edward Island.

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The Principal investigator (CV) was responsible for research design, research protocol development, obtaining ethics approval, recruitment of the research assistants (RAs), mentoring the RAs during the research process, directing data collection & analysis, and reporting research findings. The Co-investigators (JV, JT, CG) were responsible for assisting with ethics review, participating in participant recruitment, data collection and analysis, and dissemination of research findings. The three research assistants were involved with preparing the online survey, communicating with participants, collecting data through surveys and interviews, transcribing interviews and assisting with data analysis and reporting. All authors have read and approved the final manuscript.

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