RESEARCH

Exploring Factors That Influence Student Engagement in Community-Engaged Learning Activities Within a Pharmacy Context

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Objective. To investigate and identify factors that enhance and restrict Doctor of Pharmacy student engagement in mandatory and voluntary community-engaged learning activities.

Methods. A phenomenological study exploring the motivations and barriers faced by pharmacy students in a mandatory community-engaged learning course and voluntary community-engaged learning activities (eg, community outreach) was conducted using semi-structured interviews. Fifteen students were randomly selected to participate in the interviews. Student responses were analyzed using qualitative thematic analysis.

Results. Primary factors motivating student engagement in mandatory community-engaged learning included having structured learning activities for students and incorporating reflective learning. Motivating factors for students participating in voluntary community-engaged learning included personal interest in the topic, convenient location and time of activity, opportunity for career development, and the chance to advocate for the pharmacy profession. Overlapping motivations for both mandatory and voluntary community-engaged learning included developing a better understanding of and broader perspective on the diverse populations in the community and having a positive impact. Common barriers identified included having limited information about student responsibilities, being given a limited student role, and feeling unconfident or unprepared.

Conclusion. Students perceived benefits from both mandatory and voluntary participation in community-engaged learning activities. However, opportunities exist for identifying and managing barriers to enhancing student engagement in community-engaged learning within a pharmacy program. Additionally, learning tools such as critical reflection can be used to further enhance student engagement with community-engaged learning activities.

Keywords: community-engaged learning, community service learning, student motivation, pharmacy, student engagement

INTRODUCTION

According to the World Health Organization, mutually beneficial partnerships between communities and educational institutions are essential in achieving social accountability.\(^1\)\(^,\)\(^2\) Many social factors impact an individual’s health, including social determinants of health, health literacy, availability of education, and access to health care.\(^3\)-\(^7\) Therefore, in pharmacy education, it is essential that faculties prepare students not only to fulfill the technical and clinical components of practice, but also to become contributing members of society who are compassionate, ethical, and socially accountable.\(^8\) In fact, the Accreditation Council for Pharmacy Education (ACPE) has identified a requirement for US Doctor of Pharmacy programs to incorporate a co-curriculum.\(^9\) Co-curricular activities for students reported by US pharmacy schools include public health outreach and education events, leadership/professional services, and legislative advocacy.\(^10\)

Similarly, the University of British Columbia’s entry-to-practice Doctor of Pharmacy (PharmD) program in Canada has incorporated a mandatory course in community-engaged learning in the second year of the four-year program to support students’ professional development and advance learning in the social factors impacting health outcomes, as described above.\(^11\) In this mandatory community-engaged learning course, Community Service Learning, students are matched with a community partner.
organization to which they provide a minimum of 20 hours of service. Additionally, each student must submit three reflection assignments for successful completion of the course. The organizations involved and community-engaged learning activities completed by students are not necessarily pharmacy or health care related, which gives students the opportunity to focus on the social aspects of the pharmacist’s role, such as communication, collaboration, and fostering an empathetic and community-focused perspective and attitude. For example, some students completed their community-engaged learning activities at the Young Women’s Christian Association (YWCA) where they participated in early childhood education. Other opportunities at different community partner organizations included assisting or facilitating English language classes or “circles” for newcomers to Canada. This exposed students to the different perspectives held by the diverse patient populations they may encounter in their future practice as pharmacists.

Additionally, many of the PharmD students are actively involved in voluntary activities outside of the course, such as community outreach. Community outreach encompasses any extracurricular activity where students provide education to the public on health topics (e.g., proper handwashing technique, blood pressure measurement clinics) and/or advocate for the profession of pharmacy, while representing themselves as students of the university. Unlike those completed in the mandatory community-engaged learning course, these activities are not part of the curricular requirements of the PharmD program. Additionally, the time students commit to these activities is based on their own personal level of interest and availability to participate. In this type of voluntary community-engaged learning, the student is required to first submit a proposal about their activity to the faculty, and upon approval, students lead the organization, development, and delivery of their activity. The student may be paired with a licensed pharmacist supervisor for their activity when deemed necessary by the faculty.

Student engagement in community-engaged learning activities helps them to understand the concept of social accountability. Opportunities for students to be actively engaged in their learning can further enrich their educational experience and foster their personal and professional growth. Students in the PharmD program are invited to complete standardized course evaluations to provide feedback about their experience in mandatory community-engaged learning at the end of the Community Service Learning course. However, course evaluations focus on topics such as learning objectives, assessments, and organization of the course, which provides limited insight into the factors that motivate or restrict students from participating in community-engaged learning. Furthermore, while several studies exist that validate the effectiveness of community-engaged learning pedagogy in pharmacy schools, preliminary searches resulted in limited literature investigating student involvement in community-engaged learning throughout their pharmacy education. For example, Clark and colleagues evaluated a service-learning course offered to medical and pharmacy students for the impact on student learning and outcomes. Results described the experience as being enriching to student development as a health care provider. To our knowledge, there have not been studies exploring the factors that enhance and restrict student participating in community-engaged learning activities in pharmacy education. Previous studies have explored motivating factors and/or barriers for pharmacy student leadership and professional organization involvement. For example, Petersen and colleagues also studied motivating factors for pharmacy students but instead focused on students’ decision to join professional organizations, such as the American Pharmacists Association (APhA), rather than in engagement in community-engaged learning activities as we did in our study. Through this study, we aimed to investigate and identify motivating factors and barriers to PharmD student engagement in mandatory and voluntary community-engaged learning activities.

**METHODS**

This study employed a phenomenological framework where the phenomenon in question was pharmacy student participation in community-engaged learning activities. In-depth, semi-structured interviews were conducted in October 2019 to gain a deeper understanding of what enhances and restricts pharmacy students’ engagement in Community Service-Learning (mandatory course in the second year of the PharmD program) activities. The interview questions were adapted from similar studies conducted with pharmacy or medical students. Ethics approval was obtained from the University of British Columbia’s Behavioural Research Ethics Board.

Eligible participants included students in the PharmD program who were enrolled in or had previously taken Community Service-Learning (mandatory course in community-engaged learning) in the second year of the program. To recruit participants, an email was sent out to UBC pharmacy students with information about the study, an invitation to participate, and a link to an online survey to provide their contact information for the research team to use when scheduling an interview. Students were also asked to indicate if they had previously participated in community outreach activities (voluntary community-engaged learning) in the online survey.
A maximum of 15 interviews was targeted to accommodate the desired timeline of the study. The study investigators used random selection to interview up to eight students who had indicated in the online survey that they had previously participated in voluntary community-engaged learning. The remaining interview slots were offered to students who had not previously participated in voluntary community-engaged learning.

Before starting each interview, the participants were asked to provide verbal consent to continue with the study and to have their interview audio recorded. The students then participated in a semi-structured interview exploring their involvement in voluntary and mandatory community-engaged learning as part of the PharmD program. Each interview was conducted by phone or in-person by a student investigator to keep the participant’s identity confidential from faculty investigators, and each interview was audio-recorded for accuracy. The student investigator was a third year pharmacy student who had previously completed mandatory community-engaged learning and participated in voluntary community-engaged learning activities, and who had previous experience in conducting qualitative research. Before conducting the interviews, the student investigator reviewed the research protocol, practiced the interview process with the study investigators, and reviewed common pitfalls in interviewing. The student investigator conducted each semi-structured interview using a script, which included predetermined questions and suggested follow-up prompts, that was co-created by all four study investigators. On average, the interviews ranged from 30 to 45 minutes. In appreciation for participating in this study, all participants received a $15 gift card.

After the student investigator transcribed the interviews, participants were offered an opportunity to review the de-identified transcripts of their individual interviews and provide feedback if necessary. They were also able to withdraw their consent to use the collected data at any time. Qualitative thematic analysis was conducted to describe the participants’ responses using NVivo 12 (QSR International). The four study investigators reviewed all the transcripts, were involved in line-by-line or segment-by-segment coding, and later constructed themes through an iterative process. The themes were identified based on the frequency of appearance of specific words or phrases and patterns identified within the dataset. All investigators collaborated to reach a consensus on the final themes.

RESULTS

Sixteen pharmacy students expressed interest in participating in the interviews. Fifteen students (five second year and 10 third year students) met the eligibility criteria and were interviewed. Thirteen students (87%) were less than 25 years old, nine students (60%) had earned a degree prior to starting the PharmD program, and nine students (60%) had previously participated in voluntary community-engaged learning activities. From the transcribed interviews, a total of 240 lines were coded in NVivo 12 (QSR International), with 147 comments identified as motivations for participation and 93 comments identified as barriers to participation in community-engaged learning.

Motivating factors for student engagement in mandatory and voluntary community-engaged learning activities are summarized in Table 1. Motivating factors were determined by the investigators to be those factors that students enjoyed when participating in the activity, enhanced their engagement in the activity or with community members, considered valuable or memorable, and increased their likelihood of participating in the activity again or in similar activities in the future.

For mandatory activities, having structured and set expectations, including set work shifts and defined responsibilities and assignments at their CPO, were motivating factors that enhanced students’ community-engaged learning experiences. Students also shared the benefits of reflective learning, completed as a requirement for the Community Service Learning course, which helped them consolidate what they were learning and how they were growing as professionals.

Regarding participation in voluntary community-engaged learning activities, one motivating factor for students was the type of event. Students were more motivated to engage in events where the topic and audience aligned with their personal interests and comfort level, that had flexible or low commitment, and that were conveniently located for students (eg, close to home or school). Students also mentioned that being involved in voluntary community-engaged learning activities included advocacy for the pharmacy profession. For example, participant 7 said “Expanding resume and having the experience and having to talk about the experience when you’re being interviewed for residency/jobs. It’s a good way to have discussions with people.” Another notable motivating factor for participating in voluntary community-engaged learning activities was advocacy for pharmacy professionals. For example, participant 9 said, “I wanted the public to understand the role of pharmacists a little bit better.”

Mandatory and voluntary community-engaged learning activities also shared some overlapping motivating factors. Students indicated that the opportunity for professional development was a motivating factor. Examples of professional development included practicing knowledge translation to the public and networking with other students in the PharmD program. One student (participant 3)
shared that “a lot of times the things that we learn, we feel like, it may be insignificant/irrelevant facts, but when you tell a patient, they’re grateful for that information and it’s [a] rewarding experience.” Broadened perspectives of the community were another factor that enhanced students’ participation. Students gained a better understanding about the varied beliefs, perceptions and experiences of community members. Through their exposure in working with diverse populations, students were able to reflect on personal misconceptions about different communities and develop their communication skills. Furthermore, students felt engaged with their community-engaged learning experiences when their contributions resulted in a positive impact on the community, such as through providing education. For example, one student (participant 9) shared about providing education about the pharmacy profession: “Getting in touch with the public and talking to them about what we do. I could see that there was a lot of

Table 1. Motivating Factors that Enhance Pharmacy Student Engagement in Mandatory and Voluntary Community-Engaged Learning

<table>
<thead>
<tr>
<th>Type of CEL Activity</th>
<th>Theme</th>
<th>Pharmacy Student Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>Structured and Set Expectations</td>
<td>“More organized and certain amount of time committing... You know what the expectations are going to be.” (Participant 15)</td>
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<td></td>
<td>Reflective Learning</td>
<td>“I personally like reflections. I know a lot of students don’t. It just helps me really consolidate what I’m learning and how I’m growing. I think that’s a nice part about [mandatory CEL activities] that we don’t necessarily get with therapeutic courses.” (Participant 13)</td>
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<tr>
<td>Voluntary</td>
<td>Type of Event</td>
<td>“How often you have to go, commitment (eg. training/how long event is/who is running/where)” (Participant 2)</td>
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<td></td>
<td>Career Development</td>
<td>“I think they believe it can help reach their goal in the end. If they want to do something, gain a position later that will look good on their resume, that could be a good motivational factor.” (Participant 4)</td>
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<tr>
<td></td>
<td>Advocacy for Pharmacy Profession</td>
<td>“I wanted the public to understand the role of pharmacists a little bit better.” (Participant 9)</td>
</tr>
<tr>
<td></td>
<td>Advocacy for Pharmacy Profession</td>
<td>“I found it fun to advocate for our profession. Help make a difference.” (Participant 7)</td>
</tr>
<tr>
<td>Mandatory &amp; Voluntary</td>
<td>Professional Development</td>
<td>“I found it interesting to learn about this topic. I did this presentation in 1st year before I learned about the [cardiovascular] module. I enjoyed learning from upper years about clinical pearls and also practicing explaining those ideas to the general public.” (Participant 4)</td>
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<td></td>
<td>Broadened Perspectives</td>
<td>“There are just some things that you need to go outside and confront head on. You quite quickly notice that not everyone has the same opportunities as you. That’s a key feature about volunteering for me.” (Participant 5)</td>
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<td></td>
<td>Broadened Perspectives</td>
<td>“The priorities are different for those who don’t have a home or have a stable life. It does help a lot to see what’s most important to the patient. […] CSL really helped me better understand the needs of other people. What their barriers are and how to overcome them.” (Participant 14)</td>
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<td></td>
<td>Making a Positive Impact on the Community</td>
<td>“It’s a Chinese senior outreach community. I also speak Mandarin. A lot of the Chinese seniors spoke Mandarin, so there was a cultural connection. Also, I have 2 grandparents living here who participate in these events. So, when I helped these Chinese seniors, it was a self-fulfillment kind of feeling because I’m helping people like my grandparents.” (Participant 15)</td>
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<td></td>
<td>Making a Positive Impact on the Community</td>
<td>“These are people had a bad experience with health professionals. It was nice for them to see that we’re there and we know what their situation is and what they do for survival. We’re not judgmental. For them to see that we’re just interacting with them and are at the same level as them. They would always tell us how much they appreciate us helping out. I think it was a very rewarding experience” (Participant 14)</td>
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Abbreviations: CEL=community engaged learning activity.
misunderstandings/myths/assumptions. The barriers that impacted student engagement in mandatory and voluntary community-engaged learning activities are summarized in Table 2. Barriers were determined by the investigators to be factors about a CEL activity that students disliked or did not enjoy and hindered their participation in the activity.

For mandatory community-engaged learning activities, many of the barriers were based on inflexible course components, such as activity schedules that could not be changed to align with student preferences. Another barrier that students identified was not being assigned to a CPO whose interests and preferences matched their own.

Students expressed challenges with setting specific goals when assigned to organizations that did not align with the students’ initial preferences. Some students also brought up inconsistencies in learning activities and lack of preparation by their CPOs. One student (participant 6) shared that often their preceptor "wouldn’t be too sure with what she had planned for us to do. So she would just be like, ‘tag along with me and whatever role I’m in, you can help me.’" Concern for personal safety was also a barrier shared by students assigned to neighborhoods that they perceived to be unsafe. Another barrier to engagement in mandatory CEL activities was a lack of psychological resilience. A student (participant 2) shared that some of...
the life stories told by the community members were difficult to hear: “I didn’t know what the right way was to respond, and I didn’t want to say something wrong.” Despite the presence and support of CPO staff, the student shared, “I took some of these situations home with me.”

For voluntary community-engaged learning activities, barriers mainly included time constraints, such as the time required to commute and attend the community-engaged learning activity and the time required for students to create community-engaged learning activity content (eg, presentation slides). Students also indicated that different competing priorities, such as academic workload and personal commitments, played a role when deciding whether to participate in voluntary community-engaged learning activities. Some students expressed prioritizing the workload of the curriculum over seeking out voluntary community-engaged learning opportunities. Furthermore, students were not always aware of the available voluntary community-engaged learning activities that they could participate in and this may have been a barrier as some students only learned about them just before they happened.

Overlapping barriers for both mandatory and voluntary community-engaged learning activities included lack of confidence and/or feeling unprepared to participate in activities (eg, knowledge gaps in answering questions, being afraid to step outside one’s comfort zone, lack of preparatory information on the student’s role and responsibilities) (Table 2). One student in this situation (participant 3) commented that it was “daunting to take on a task, and you may not necessarily know what you’re taking on.” Additionally, in the local jurisdiction, pharmacy students are restricted from providing clinical advice or delivering pharmacy practice activities to the public in the absence of a licensed supervising pharmacist as required by the local pharmacy regulatory body (ie, College of Pharmacists of British Columbia).23 This applied to all mandatory community-engaged learning placements (as their assigned supervisors are not licensed pharmacists) and any voluntary community-engaged learning activity where a licensed supervising pharmacist was not present. Students identified this restriction as a barrier to their engagement in activities where there were opportunities to provide clinical advice or address specific questions.

**DISCUSSION**

There is a paucity of data exploring the factors that enhance and restrict student engagement in CEL activities in pharmacy education. In studies exploring pharmacy student leadership and student involvement with professional organizations, factors that motivated student participation included career development (eg, expanding their resume, networking opportunities), building leadership skills, and making a positive impact in their community.15,16 Factors that restricted student involvement included time commitment and location of the community-engaged learning event.17

Our study provides insight into student engagement in community-engaged learning in pharmacy education by looking at student participation in both mandatory and voluntary activities. Several motivating factors and barriers identified in both types of activities were similar to those noted in other studies.24,25 For example, time commitment and inconvenient location of the events were seen as barriers, whereas opportunities for personal, professional, and career development were seen as motivating factors.

Our results found that students felt more engaged with mandatory community-engaged learning activities when there were structured expectations and their role was defined at the CPO. Likewise, students described feeling less engaged when there were mismatched expectations in terms of scheduling and/or their student role. Our findings are consistent with those of Clark and colleagues who reported that the most common barriers for students working with community partners during community service-learning programs were scheduling difficulties and, in some cases, a lack of clarity of the students’ roles.1 The barriers specific to voluntary community-engaged learning activities included challenges in managing logistics and volunteers, which paralleled the findings of the phenomenological study conducted by Loh and colleagues.26 Medical students who participated in a voluntary community service project shared that they faced obstacles motivating their volunteer committee members, allocating enough time to complete assigned tasks, and implementing new ideas.

Maerten-Rivera and colleagues recently investigated challenges in implementing the co-curriculum requirement for pharmacy schools in the United States, and identified that a lack of enthusiasm from students was a commonly reported challenge to successful implementation of the co-curriculum and associated activities.27 Our study identified motivating factors for and barriers to student engagement in mandatory and voluntary community-engaged learning activities that should be considered when creating and implementing activities in the co-curriculum. For example, a shared theme between mandatory and voluntary community-engaged learning that emerged from this study was the idea that students were more motivated to participate when they felt their contributions would be valued by the community and/or would contribute to their professional development by directly drawing on their pharmacy skills and knowledge of medications and therapeutics. This finding suggests that co-
curricular activities that allow for this type of interaction and impact could promote student engagement and enthusiasm about participating in the activity.

Building on the concept of impact to the community, one of the goals of mandatory community-engaged learning at UBC’s PharmD program is to foster an understanding in students that being a pharmacist is not strictly about therapeutic knowledge, pharmacists also have a role to play in the community to address determinants of health outside of medication-related factors. Diaz-Cruz asserts that pharmacists, being one of the most accessible health care professionals, are well suited to help reduce health disparities. Thus, pharmacy education should endeavor to not only teach students about health disparities, but also move beyond awareness to action and advocacy.28 Therefore, further study is merited into methods of reinforcing this point, such as reflective learning, which was identified in our study as a tool that enhanced student engagement in community-engaged learning activities.

In our program, reflective learning is incorporated into mandatory community-engaged learning as a required activity, but not intentionally incorporated into voluntary community-engaged learning. In Shulman’s table of learning, reflection plays a key role as it builds the ability to exercise judgement in challenging situations where there may be uncertainty or unpredictability.29 This judgement leads to commitment, which allows a person to internalize their understanding, opinions, and values into their identity.29 Our results align with this concept, where students identified reflective learning as a factor that enhanced their engagement by raising their awareness of what they were learning and gaining from the experience. As such, the incorporation of critical reflection in voluntary community-engaged learning and refinement of reflection in mandatory CEL within pharmacy education should be considered for future investigation given its importance in fostering personal and professional growth in students.

With phenomenological studies that require participants to recall personal experiences, there is a risk for recall bias. In this study, because there may have been lag time between students’ initial community-engaged learning experience and the interview, recall bias may have occurred. As well, some students may not have been fully comfortable in sharing their experiences given the involvement of faculty members during data analysis. The study attempted to mitigate this latter concern by ensuring students were aware that their participation in the study would not affect them academically. Moreover, students were advised that a student investigator would independently conduct all interviews with participants and remove all identifiers from the transcribed interviews used for data analysis. We acknowledge this was a single-centered study and the responses shared are not representative of the entire student body given the inherent differences in student backgrounds, gender, and baseline motivation levels. Additionally, only students who had taken part in the mandatory community-engaged learning were eligible to participate in our study. As this course was newly implemented in 2018, this limited our sample of students to those from years two and three of this four-year program. In following a phenomenological framework and conducting in-depth, semi-structured interviews, we used a smaller sample size, which produced highly qualitative results.30 Interpretations of qualitative data may be subject to researcher bias as well. Despite the described limitations, the students’ responses were rich and informative and helped us identify areas for future work.

CONCLUSIONS

The pharmacy students in this study perceived benefits from participating in both mandatory and voluntary community-engaged learning activities. Specific and overlapping motivating factors for participation exist for mandatory and voluntary community-engaged learning activities. However, there are also barriers that impact student engagement and participation and prevent them from being fully immersed in these activities. Opportunities exist for pharmacy educators to address identified barriers to engagement when designing or evaluating community-based learning activities, to reduce student apprehension about participating in them, and to utilize learning tools such as critical reflection to further student engagement in these activities.

ACKNOWLEDGEMENTS

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