THE SCIENCE AND ART OF COMMUNITY-ENGAGED RESEARCH: A MIXED METHODS STUDY

E. Anne Marshall
University of Victoria, Canada

Tricia Roche
University of Victoria, Canada

Breanna Lawrence and Jennifer Coverdale
University of Victoria, Canada

Establishing effective university-community research partnerships is an increasingly important requirement for successful scholarly research. It is particularly critical in cultural and community contexts where values, priorities, and practices may differ from those in academic settings. However, although there is widespread support for community-engaged research (CER), very few graduate research courses include instruction on relevant skills and knowledge. The purpose of the present study was to address this gap. First, 15 key informant qualitative interviews were conducted with a diverse disciplinary sample of community and faculty researchers. The interview themes were then used to develop a 20-item on-line survey that was completed by 257 graduate students. The results indicated that more than 85% of students were interested in and agreed that acquiring knowledge and skills in CER was important. However, most (72%) reported that they had received very little instruction or mentoring on these topics. Although 62% of participants were familiar with the concept of CER, only 35% had learned about it or were involved in it; even fewer (28%) had learned about CER theory and practice. The implications of the study results are discussed, along with recommendations for graduate research curriculum and training.

Keywords: Community engaged research, Graduate research education, university-community research partnerships.

Introduction

Establishing effective university-community research partnerships is an increasingly critical requirement for conducting successful and meaningful academic research (Banister et al., 2011; Benoit et al., 2005; Cochran et al., 2008; Menzies, 2001). Post-secondary institutions recognize the importance of community connections in their priorities and strategic plans. Granting councils and funders increasingly require evidence of collaboration with community partners and stakeholders as part of proposals. Both academic and community researchers have written extensively about the knowledge and skills needed to successfully conduct such community-
engaged research (CER), also known as community-based research (CBR) (Estabrooks, et al., 2006; Lavis, et al., 2003; Paul, 2006). However, these topics are seldom addressed directly in university graduate research courses and there is little empirical evidence available on what content and teaching methods are recommended at the post-secondary level (McNicoll, 1999; Stocking & Cutforth, 2006; Strand, 2000). In this mixed methods study, we addressed this gap by asking *What are the specific knowledge and skills that graduate students need in order to understand and conduct successful campus-community engaged research (CER)?* and *What are the effective strategies and methods needed to teach these skills to graduate students?*

Paul (2006) observes that students can “struggle with finding meaning in the research process” (p. 12) – perhaps this is symptomatic of the difference between wanting to do something meaningful but not understanding how to do this through research. Across disciplines, graduate students report the desire to be prepared for “work that connects their intellectual passions with the needs of society” (O’Meara, 2008, p. 29) but say they are not being trained to do so. According to Strand (2000), incorporating community-engaged research into graduate programs is an effective way to develop students’ capacities and dispositions for leading meaningful lives and contributing to making the world better. When forming ideas about research and scholarship, O’Meara (2008) states it is important for students to take a broad view of scholarship – to learn to understand “the intellectual value of connecting ideas across academic disciplines, applying abstract ideas to real world problems, and gaining theoretical insights from practice” (p. 27). Involving students in community-engaged research can be a highly effective teaching strategy in this respect (Strand, 2000).

While several authors have written about the benefits of community-engaged research for communities and for their university partners (Estabrooks, et al, 2006; Laundry et al., 2001; O’Meara & Jaeger, 2006), less attention has been devoted to how to teach graduate students about community-engaged research (Berger, 2002; Marshall & Guenette, 2011). Typically, graduate courses address the traditional (and often individually focused) academic research activities such as literature reviews, research design, data collection, data analysis, and dissemination in academic journals. What is missing from the large majority of these core required research courses is instruction on the skills and knowledge needed in order to conduct successful and effective community-engaged or community-based research. For example, community agencies and organizations have their particular cultures – values, principles, strengths, procedures, and challenges – and these community factors have to be taken into account in the design of the research project, planning with the community how the research will be conducted on the ground, and understanding how the knowledge is mobilized (Shonkoff, 2000).

With the increasing post-secondary emphasis on civic engagement, government offices, schools, community services, and not-for-profit agencies have been inundated with requests for research (Cochran et al., 2008; Hands, 2005). We undertook this exploratory study to identify key principles and practices related to community-engaged research that will subsequently be investigated more broadly.

**Literature Review and Context**

Community engagement is the teaching, research, or outreach that connects disciplinary expertise, theories, or ideas to public concerns (Estabrooks et al., 2006). Community-engaged research is collaboration between researchers and community partners in the design, implementation, and dissemination of a research project aimed at meeting community-identified
needs. University faculty, students, and community partners address a shared research question. Partners contribute their expertise to enhance the understanding of a particular phenomenon and integrate their knowledge with action (Holkup et al., 2004). This collaborative inquiry is primarily dedicated to serving the research or information needs of community organizations (Paul, 2005; Strand, 2000). Garcia et al. (2010) maintain that in order to meet community needs, university-community collaborations are necessary to develop innovative strategies.

 Compared to traditional academic research models, community-engaged research is: collaborative – research is done with rather than on communities; change orientated – the goal is to contribute to improving the lives of those in the community; and provides validation for the use of the multiple resources (Stocking & Cutforth, 2006; Strand, 2000). Holkup et al., (2003) suggest that community-based research characteristics include: a) building on the strengths and resources of community; b) promoting co-learning among partners; c) balancing between research and action that mutually benefits both science and community; d) emphasizing the relevance of community defined problems; e) employing an iterative process to develop and maintain partnerships; and f) disseminating knowledge gained from research projects with all partners. The knowledge and skills necessary to accomplish these are different than those need to understand and conduct lab or single investigator-driven research (Greenberg, 2004; Marshall & Guenette, 2011; Shonkoff, 2000).

 Community-engaged research produces benefits for communities, students, and faculty (Bloomgarden & O’Meara, 2007; Paul, 2006; Stocking and Cutforth, 2006). For community partners, benefits include capacity-building, help with program development and evaluation, and the potential to enhance growth and outputs. CER also benefits faculty by integrating research, teaching, and service activities, weaving together professional “roles such as teacher, scholar, and citizen in a most rewarding way” (Paul, 2006, p. 15). Additional benefits to faculty include opportunities to apply research skills in the community, credibility is some disciplines, and complementary approaches to more traditional research agendas. Not only does community engagement provide opportunities for faculty to feel more value in applying their research expertise to address authentic local community issues, community engagement also promotes the recent effort in higher education to improve teaching practices, (Furco, 2002; O’Meara, 2008).

 Institutions benefit tremendously from community-engaged partnerships that provide new learning opportunities for students as well as increase student and community awareness (Crothers, 2002; Paul, 2006). For students, the benefits of community-engaged research are considerable. They can learn how to apply research skills to address community-identified needs and develop research products to further the work of community organizations (Slatkoff et al., 2006). They learn civic engagement, gaining skills in teamwork, problem-solving, and interpersonal relationships (Stocking & Cutforth, 2006). CER can also enhance personal, intellectual, and moral development (Parker et al., 2009). Parker and colleagues suggest that students perceive community engagement as positive, with opportunities for personal development and growth, and believe it enhances “real world skills” – considering themselves more able to integrate experiential learning into courses while also developing a sense of civic responsibility. In addition, Strand (2000) describes several benefits of teaching research methodology through community-engaged research: students’ enthusiasm during experiential work; increased accountability and sense of purpose; enriched understanding about various dimensions of research methods; and learning that social research is rarely linear and subject to researchers’ control.
Theoretical Framework

Our overarching conceptual framework for community-engaged learning is rooted in theories of social constructivism and experiential education (Furco, 2002; Garcia et al., 2010). From these perspectives, teaching community-engaged research enhances students’ learning of academic content by engaging students in authentic activities in which they apply the content of a course, such as research methods, to address real-life identified needs in the community. Learners take an active role and bring experience and knowledge to their education including culture, personality, and political ideologies. Students are educated and socialized as “public scholars, learning actively about the research process and how empirical inquiry can be applied to real social issues” (Paul, 2006, p. 13). Crothers (2002) posits that from this perspective, students learn and apply extended knowledge that enables “multiple levels of learning,” thus leading to increased engagement in academic scholarship.

Instructional Challenges in Teaching CER. Successful community-engaged research can positively contribute to community issues, strengthen university-community partnerships, and aid in students’ personal and professional development; however, instructors who want to insert specific skills on partnership development and community engagement face challenges. Generally, CER partnerships are challenging for students because “students’ traditional expectations of learning ‘rules and regulations’ are exploded” (Paul, 2006, p. 15). These research projects require flexibility and adaptability – students must “step up as equal partners, exercising both leadership and collaboration skills” (Paul, 2006, p. 15). In addition to being able to conceptualize and design methodology for community audiences (Bouhaimed et al., 2008), students must develop their communication, problem solving, project organization, and writing skills in ways that support and promote community collaboration (Garica et al., 2010; Paul, 2006). Self-reflection, listening skills, diplomacy, and the ability to deal with difference are also essential personal skill areas of learning related to teaching community engagement. However, these contextually oriented topics are seldom included in graduate level research texts or course syllabi.

According to Stocking and Cutforth (2006), the challenges faced by instructors who want to insert specific skills on partnership development and community engagement include: finding a disciplinary connection, building these skills into the curriculum, ensuring student readiness, and structuring the research experience (time constraints – more complex than traditional research projects). Other challenges to teaching community-engaged research noted by McNicoll (1999) include the: a) need to adopt a new research perspective; b) realization the ethical considerations sometimes hide social control elements; c) tensions between research and action; and d) need to pay attention to group process. Stocking and Cutforth (2005) emphasize that anticipating these challenges helps instructors develop effective strategies in curricular, academic, and personal benefits for students to successfully engaged in community-engaged research. However, there is a paucity of research that has identified the ways (content and instructional methods needed) in which to instruct students about the theory and practice of successful community-engaged research.

The generalized elements of effective research partnerships are well known; these include trust, time, relationship, mutual benefit (Campus Community Partnerships for Health, 2006; Estabrooks, et al., 2006). At issue in our study is how to prepare students to approach these standards for equitable and effective research partnerships. What knowledge, skills and tools can assist student researchers to more fully live up to what we already know make partnerships work? In this paper, we offer contextualized and detailed insights from a series of research
interviews that showcase the ways some have wrestled with these issues. In this way, we shine a lens on “knowing how” rather than “knowing that” (Sternberg, et al., 2000) and surface the considerations demanded by the everyday realities of the complex contexts in which CER takes place.

**Method**

A mixed methods design (Creswell & Plano Clark, 2011) was deemed appropriate for this exploratory study in order to broadly identify the attitudes, information, experiences, and practices for learning effective CER across academic disciplines. Community partnerships and ethical principles were integral to the study design. Our experiences as community-engaged researchers have underscored the necessity of respectful and reciprocal relationships (Marshall & Guenette, 2011).

**Phase 1 - Key Informant Interviews.** In-depth qualitative interviews were conducted with a diverse disciplinary sample of 15 community and faculty researchers who had a minimum of 10 years’ experience with CER that involved post-secondary students. Eight of these Key Informants (KI) were experienced leaders of community organizations; 7 were university researchers. Interviews began with the overall project research questions (see above) and proceeded with more specific questions such as *What do you think are the most important things to know before you begin CER? How have you or would you resolve conflicts that arise in CER? and “What are specific strategies that you have used/experienced to teach/learn CER?* Prompts (such as *Could you tell me a bit more about that?* or *Can you give me a recent example?) and open questions were used to facilitate the interview process. KI interviews lasted between 45 and 75 minutes, and were transcribed by research assistants using an established team format that included all participant and interviewer words but no “um” or “uh” (Marshall, et al., 2012). The research team then analyzed the transcripts and field notes for narrative themes, adapting the social constructionist and relational theory procedures used in our previous CER research (Begoray et al, 2009; Marshall, et al., 2012; Stewart, 2009).

Exploratory analysis of community and academic informants revealed several common themes, as well as differences of degree and emphasis, and points central to the preparation of students for engaging in CER. It should be noted that there were different experiences and emphases within the university and community groups, as well as between them.

**Phase 2 - Online Survey.** The KI interview results and themes were used to develop an online survey that was made available to graduate students at the university. An e-mail recruitment message was distributed through department and graduate student list serves – interested participants followed a link to the anonymous survey that took approximately 20 minutes to complete. The survey consisted of 25 forced-choice and short answer items. Of a total of 272 responses, a final sample of N=256 complete responses was used in the analysis. A diverse cross-section of disciplines and faculties was represented: social sciences (23%), engineering (16%), education (15%), human and social development (15%), science (15%), and humanities (11%), as well as fine arts, business, and law (5% altogether). Just over a quarter (26%) were in the first year of a Master’s level program, 28% were in second year Master’s, 30% were first to third year doctoral students, and 16% were post second year Master’s, post third year doctoral, or “other”.
Results

The main findings from are summarized below. From the Phase 1 Key Informant interview analysis, four main themes are described and illustrated with participant quotes in italics: Benefits and Challenges, Experiences with Students, Situational Awareness, and Self-Reflective Practice. In the second section, several results from the Phase 2 graduate student on-line survey are presented.

Phase 1 - Key Informant Interviews

Benefits and Challenges. As expected, given their experience with CER, both community and university informants clearly underscored the value and positive potential of this type of research. Community researchers confirmed the need for high quality research evidence related to their programs and services, along with assurances that the research would serve their needs. The experienced university researchers echoed this: *I think it should be on the community to decide what would be of benefit to them.*

However, when asked about their experiences with CER, a gap was revealed between what the community informants know and want in research partnerships and what they told us they experienced on the ground. *Sometimes because our resources are so scarce and people are already over-extended with work we have to do, the time it takes to work with, to educate researchers and students is sometimes just too costly.* (community KI). The university respondents were also aware that the reality of research partnerships can fall far short of the ideal: *a researcher can cause all kinds of havoc.* University researchers working specifically with minority and/or marginalized communities drew particular attention to the legacy of poor research partnerships: *Community people are greatly suspicious of university researchers. And there’s a long and dark history there that has to be overcome.*

Experiences with Students. Community experiences of hosting students conducting CER projects was mixed. On the positive side, community informants acknowledged the work they were able to accomplish with assistance from students and appreciated that the large majority genuinely want to contribute in helpful ways. One observed: *We wouldn’t have been able to reach as many people without having that help from students.* Others described the increasing emphasis on evidence-based reporting and the need for program evaluation data that students are able to provide as part of a graduate thesis or research project.

On the other hand, more than half of the community key informants described examples of challenges related to working with student researchers. These included a lack of confidence to connect with the stakeholder group, requesting information for coursework without sufficient lead time, and crossing ethical boundaries. The community critique of students centered on scenarios where the community felt secondary to the student’s own academic purposes: *So, what they [students] are doing is … they are mining you for information but all they want to do is get their paper done.* To avoid this problematic relationship between the student and the community, one university researcher draws students’ attention to the need for community benefit: *getting across the idea that if you want to learn from somebody you essentially want something from them … you have to give back, in whatever way they need.* Another academic researcher suggested speaking to students directly as a strategy for highlighting the community benefit...
imperative: What’s in it for them [community]? What’s in it for you is a degree, that’s fair ... Why would they want to work with you? ... What are you going to give back?

The community informants shared their frustrations with an eye to addressing and solving the problems. They also shared insights on the skills and knowledge needed to engage in CER: one of the biggest assets I’ve seen with working with students is if they are resourceful ... if they can think on their feet. Other concrete suggestions included mentoring, apprenticeships, observing and volunteering with the agency in a non-research capacity to learn about the organizational culture, and the recommendation (particularly salient to our research) to facilitate community participation in the training of students prior to commencing CER.

University informants suggested that a particularly important feature of teaching CER to students (in addition to traditional research skills) involves teaching a way of being, an overarching process or stance toward the community. According to one university researcher I can’t think of anything better to teach people about community based research than the golden rule. Do unto others as you would have them do unto you.

Situational awareness. Central to learning CER is building situational awareness. It is not so easy diving into community when you come from a different place (community KI). Students who want to establish a successful CER partnership need sometimes “to unlearn”, according to one community informant: Because sometimes when we go to university, we get so involved in the environment, language and behaviour and this may not help develop a healthy and strong relationship with the community. Recognizing and making space for the community ways of working can require stepping away from languages, and approaches central to a university culture or in the words of one university informant seeing with new eyes and the softening of disciplinary lenses.

This situational awareness extends beyond the moments of research partnership building and conducting the research. It is also critical to the transfer of research knowledge back to community. In the words of one community informant: You know it’s a different mindset when you’re not when you haven’t been to university. Like what the hell is a lit review, what’s Google scholar? I mean who cares? ... And you know another thing that would be really cool is if at the end of each research project they have a way to present it to the appropriate people so it’s not sitting on the shelf, so it’s not just mailed out.

Building detailed knowledge of the community context of the CER research partner, can also contribute to the student’s recognition multiple epistemologies and how these shape the CER community goals, ways of working and dissemination approaches.

Self-Reflective Practice. Community and university respondents were in agreement on the value of self-reflective practice for student researchers. Being aware, self-knowledge and documenting reflections on practice were common themes. While the use of field notes are common practice for researchers, this tool is also recognized by community as strengthening student researchers: Self reflection tools...like a journal or something like that can help them reflect on their learning on a daily basis (Community KI). Community respondents commented favourably on the strengths of student researchers who know themselves; who are mature and self aware.

University researchers also practiced the self-reflection and learning from mistakes that they advocate for the student researchers. Teaching “how to get it right” means that the researchers have examples of “getting it wrong” at their fingertips. One university respondent observed, I did the wrong approach ... I developed my questions in academic isolation. The experienced instructors used this heuristic device of teaching what CER is by providing examples of what it is
not. Again, cautioning students with the knowledge that research can do harm is seen as an important element of good teaching of CER.

Phase 2 - On-line Graduate Student Survey

The graduate student respondents showed overwhelming support for learning about community-engaged research. Ninety per cent (90%) of the participants indicated that they were either “somewhat” or “very” interested in learning about CER; 86% agreed that acquiring knowledge and skills in CER was “somewhat” or “very” important. At the same time, however, only a little over a quarter of these students (28%) reported learning about it as part of their academic requirements. Graduate courses, supervisors, peers, and research work experience were the main ways that respondents reported learning about CER. Of these 74 respondents, 33 (44%) rated their level of knowledge of CER principles and practices as “excellent” or “very good”, 17 (23%) said “good”, 22 (30%) indicated “adequate” or “basic”, and 2 (3%) said “poor”.

Most students reported that they had received very little or no instruction or supervision on CER topics in their graduate research courses. These included knowledge and skills such as: understanding the importance of community history, culture and dynamics; building and sustaining effective relationships; communicating with community partners; working with ethnically and culturally diverse groups; developing collaborative proposals; addressing equity and power differences; and understanding the challenges faced in CER partnerships.

What was particularly striking was the reported discrepancy between knowledge, or learning about, and skills, or learning how. For example, although 86% of students said that it was “essential” or “important” to understand and identify the challenges faced in CER, only 6% said “yes” to having learned specific strategies to address these challenges – 51% said “somewhat” and over half (53%) said “no”. Also, eighty-eight per cent (88%) said it was “essential” or “important” to understand the ways in which conflict can arise in CER partnerships. However, only 6% said they had learned specific strategies to address conflict, 36% said “somewhat” and 58% said “no”. With regard to equity and power differences, a common challenge arising in community research contexts, 90% of respondents said it was “essential” or “important” to be able to understand and address these potential roadblocks. About 13% said they have learned specific strategies to address power imbalances; 34% said “somewhat” and 53% said “no”. In response to a question about funding, only 8% of respondents said they could identify funding sources to support CER, 27% said “somewhat” -- almost two thirds (65%) said “no”. The skill areas where graduate students reported more grounding included the familiar topics found in graduate research courses such as developing research questions (82% “yes”/”somewhat”; 18% “no”), making research results mutually beneficial (75% “yes”/”somewhat”; 25% “no”), and presenting findings (83% “yes”/”somewhat”; 17% “no”).

Discussion

Not surprisingly, university and community researchers in this study endorsed the benefits and challenges associated with community-engaged research that others have also experienced (Banister, et al., 2011; Bouhaimed, et al., 2008; Campus Community Partnerships for Health, 2006) While no prescription exists for research partnership building, we note that experienced CER community and research informants used fewer generalized abstractions such “trust” and “reciprocity” and more implementation language that is grounded in appreciation for the complexities of specific situational contexts (Cochran, et al., 2008; Greenberg, 2004). The informants in our study were thus exhibiting the very situational knowledge they suggest students must learn in order to engage in equitable CER partnerships. As O’Meara (2008)
maintains, learning the principles of CER along a scheme of categories is not sufficient to prepare students to enter into equitable partnerships with community. Context matters. History matters. Perhaps, as this study suggests, the humility engendered by knowledge of the harm perpetuated on communities by research is also helpful.

We note that “university” and “community” are also abstractions -- there is no one community – different organizations, sectors, cultural groups have distinct epistemologies, as Shonkoff (2000) observes. University disciplines and units also vary in their knowledge frameworks and approaches – their “cultures” (Marshall & Guenette, 2011) Given the diversity of perspectives across disciplines and among the university, community and student perspectives communicated in this study, agreement on greater student preparation was remarkably consistent along with suggestions regarding key learning areas.

**Implications and Recommendations**

Teaching CER cannot be decontextualized. As recommended by Strand (2000), our study results suggest that CER students should learn to attend to the unique features and history of their community partner and to develop capacities to recognize multiple perspectives and reflect on their practice. This does take time -- the teaching/learning of CER happens *slowly and incrementally*, as one university respondent observed. Moreover, we cannot assume that what works in one setting will necessarily work -- or work as successfully -- in another setting.

Findings from both the survey and interviews confirm the need to develop better tools and practices to prepare students to engage in CER, consistent with what Berger (2002) and Paul (2006) recommend. In this study, community researchers, university researchers and graduate students all agreed that more can be done to support graduate student preparation to engage in CER. Moreover, this needs to take place in advance of as well as alongside conducting CER activities with community organizations – prior knowledge and preparation is important, however, guiding and mentoring students when they are conducting research in the community is equally important.

The results from this study have provided some insights about what graduate students need to learn and experience in order to conduct successful community-university research. Because of the diverse participant sample, the findings will be applicable across disciplines and settings. The sample sizes were modest, however. Our planned future research with larger samples in multiple settings will reveal whether there are disciplinary and/or locational distinctions or trends.

Graduate theses and research projects will be more useful to community partners and organizations if they are conceptualized and conducted using both the principles *and* practices of mutually beneficial community engagement – the “how” as well as the “what”. It is our intention that these results will inspire a range of readily accessible specific strategies, tools, and resources that will be of benefit to students, university researchers, and community partners alike. These will improve and extend the relevance of research studies as well as the dissemination and mobilization of knowledge. With regard to policy, the results have implications for academic as well as community decision-makers, with respect to curriculum requirements, field research, and community training models.
Conclusion

Our exploratory analysis of community and academic CER informants revealed several common themes, centering on ethics, situational awareness, and reflective practice. Differences in organizational mandate and particular expertise between community and university respondents generated some divergent views on priorities and preparation models. All agreed, however, on the importance of students understanding the potential harm of ill-conceived and conducted research projects and of their making a contribution or “giving back” to the community.

Although there was very strong interest in and value placed on CER, our on-line survey results indicated that there was little organized instruction available that explained basic principles and practices of CER. Key informants emphasized that students should be adequately prepared to understand and undertake this type of research, and supported while in the process. They agreed that graduate level research courses need to incorporate more content and teaching strategies for conducting CER.

The ultimate goal of CER is to strengthen graduate students' capacity to develop and maintain respectful community engagement research practices so they can contribute meaningfully to society. The findings from our study suggest that learning CER is both a science and an art. There are models, designs, practices, and tools that can be taught and explained in academic courses and community training workshops. However, the diverse epistemologies and particular situational contexts in community organizations often require experience and creative solutions that are not likely to be found in textbooks or manuals – therein lies the art of making a contribution to community well-being.

References


