IJRSLCE | International Journal of Research on Service-Learning & Community Engagement

Volume 10 | Issue 1 Article 4

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Recommended Citation

Morton, M., Thomson, L., & Varghese, J. (2022). The value of critical community engaged teaching and learning is in the values: Advancing students' learning outcomes. *International Journal of Research on Service-Learning and Community Engagement*, *10*(1). Article 4. https://doi.org/10.37333/001c.66273

International Journal of Research on Service-Learning and Community Engagement
Volume 10, Issue 1, Article 4 | 2022 | ISSN: 2374-9466 | https://ijrslce.scholasticahq.com/

The Value of Critical Community Engaged Teaching and Learning is in the Values: Advancing Students' Learning Outcomes

Mavis Morton, Lindsey Thomson, and Jeji Varghese

Community engaged teaching and learning (CETL) is an active, authentic experiential learning pedagogy and a high impact educational practice (HIEP) that can advance undergraduate and graduate course learning outcomes. Using mixed-methods we heard from students from sociology courses about their CETL experiences. We highlight three specific insights. First, CETL can be used to achieve university-level learning outcomes. Second, CETL provides an opportunity to develop community engaged scholarship course learning outcomes linking CES principles to related knowledge, skills, and values. Third, CETL offers a unique opportunity to extend the conceptualization of civic values toward equity and social justice.

Keywords: *values, learning outcomes, high impact educational practice, experiential learning, active learning, community engaged scholarship training*

El Valor de la Enseñanza y el Aprendizaje Comprometidos con la Comunidad Está en los Valores: Cómo Mejorar los Resultados de Aprendizaje de los Estudiantes

Mavis Morton, Lindsey Thomson, y Jeji Varghese

La enseñanza y el aprendizaje comprometidos con la comunidad (CETL, por sus siglas en inglés) es una pedagogía de aprendizaje experiencial activa y auténtica y una práctica educativa de alto impacto que puede mejorar los resultados de aprendizaje de los cursos de pregrado y posgrado. Usando métodos mixtos, escuchamos a estudiantes de cursos de sociología compartir sus propias experiencias en CETL. Destacamos tres ideas específicas. Primero, CETL se puede utilizar para lograr resultados de aprendizaje de nivel universitario. En segundo lugar, CETL brinda la oportunidad de desarrollar resultados de aprendizaje en cursos comprometidos con la comunidad que vinculan los principios del aprendizaje a través del servicio comunitario con otros conocimientos, habilidades y valores relacionados. En tercer lugar, CETL ofrece una oportunidad única para ampliar la conceptualización de los valores cívicos de igualdad y justicia social.

Palabras clave: *valores, resultados de aprendizaje, prácticas educativas de alto impacto, aprendizaje experiencial, aprendizaje activo, capacitación comprometida con la comunidad*

Editors' Note: Translation by **Beatriz Calvo-Peña**
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Integrating teaching, service and research through community-university partnerships provides students unique opportunities for authentic experiential forms of teaching and learning as part of a university curricular experience (Levkoe, Brail & Daniere, 2014; Mooney & Edwards, 2001; Tarantino, 2017). Our study demonstrates that community engaged teaching and learning (CETL) is active and experiential learning (Wright, 2000) pedagogy and a high impact educational practice (HIEP) (Association of American Colleges and Universities, 2013) that can advance course learning outcomes (LOs) (Schoepp, 2017). Learning outcomes describe the knowledge, skills, and abilities that successful students will have by the end of the program or course (Office of Teaching and Learning, n.d). According to Taylor (2009), "Learning outcomes define... what [the learner] should be able to demonstrate or perform upon successful completion of their learning (p. 780). Mark Battersby (1999) further adds that a "learning outcomes approach" is beneficial in encouraging instructors to "focus on a broad synthesis of abilities that combine knowledge, skills, and values into a whole that reflects how people really use knowledge" (p. 1). Our research set out to understand how undergraduate and graduate students' experiences with CETL help demonstrate applicability and the associated LOs. Our research question is "How do students experience community engaged teaching and LOs?" Our study drew on the experiences of students enrolled in two sociology courses at our mid-sized Canadian university (University of Guelph, Ontario) with explicit but varied CETL components.

We begin with the context from which CETL has emerged and situate CETL against similar pedagogies. We offer a definition of CETL and highlight its pedagogical benefits. Next, we outline the analytical framework used in our analysis and our mixed methods research design. We address our research question by considering the overall knowledge, skills and values the students gained from their CETL experience. From these findings, we discuss three specific insights we gained about CETL enhanced student learning outcomes.

Context for CETL as Promising Pedagogy

Community-university engagement is foundational to the history of public universities (Gupton, Sullivan & Johnston-Goodstar, 2014). However, across North America, as higher education continued to expand; the commitment of the teaching, research and service missions serving the public good shifted to an emphasis on graduate education and this positioned research at the top of the triad which led to disconnection from the community (Fitzgerald, 2014). After a shift away from addressing community issues (Fitzgerald, 2014; Gupton et al. 2014), 21st century higher education prompted a recognition about the misalignment between post-secondary institutions and communities' priorities. This led to renewed interest in exploring ways to rethink institutional frameworks for engagement (Furco, 2010). Community-university partnerships that integrate teaching, service and research were identified by the Kellogg Commission (1999) and others as ways to address the criticism that universities were out of touch with "real-world" issues facing communities (Morrell, Sorensen & Howard, 2015).

Many pedagogical approaches are used to unite and integrate the core missions (i.e., research, teaching and service) of academic institutions (Stanton, 2008). Some examples include Service-Learning (S-L), Critical Service-Learning (Mitchell, 2008), Critical Feminist Service-Learning (Hinojosa-Alcalde & Soler, 2021), Community Based Learning (CBL), Service/Community Based Learning (S/CBL, Boland, 2011), Active Learning (AL, Prince, 2004), Experiential Learning (EL, Quinn and Shurville, 2009) Authentic Learning (AL), Curricular Engagement (CE, Gulikers, Bastiaens, & Martens, 2005; Stanton, 2008), and Fair Trade Learning (FTL, Hartman, 2015). Although there are similarities between these approaches, they are not interchangeable. For example, Fair Trade Learning is described as a "model of community tourism" based on participatory budgeting and community-driven development. It was developed as a construct which "explicitly engages the global civil society role of educational exchange in fostering a more just, equitable, and sustainable world" (Building a Better World Forum for Global Service-Learning, 2013 as cited in Hartman et al. 2014, p. 110). Critical Service-Learning focuses on social change whereas Critical Feminist SL (CFSL) combines the principles of SL and feminist pedagogy which explicitly incorporates an analysis of gender inequalities (Hinojosa-Alcalde & Soler, 2021). Although we identify our pedagogical

approach as most aligned with CETL, we do see connections across Critical S-L, Feminist Critical S-L and FTL in terms of the common principles associated with ethical community-university partnerships. The following provides an overview of the literature regarding CETL and student outcomes.

Framework for Studying CETL Learning Outcomes via Learning Outcomes Taxonomies

CETL is identified as good pedagogy mainly due to associated learning benefits for students. This has come from various learning theories, e.g., Progressive Education (Dewey, 1938), Critical Pedagogy (Freire, 1968) and Experiential Learning Cycle (Kolb, 1984), that ground the practices of S-L and CETL (Peterson, 2009). All three theorists argue that "... learning is something gained through action and relationship with others, with ideas and with one's surrounding environment …" (Peterson, 2009, p. 543). Furthermore, Bloom (1956) categorised the spectrum of student learning into three domains: cognitive (thinking), psychomotor (doing) and affective (feeling). To date, most of the literature on S-L and CETL points to the cognitive benefits meaning it involves activities that stimulate the mind (Weigel and Bonica, 2014, p. 21) and, specifically, "application" and "critical thinking" (Schelbe, Petracchi & Weaver, 2014). Conway, Amel & Gerwien (2009) found some evidence that S-L could promote academic, personal, social and citizenship outcomes but evidence of social outcomes was mixed and depended on carefully designed structured reflection. The S-L literature does not capture all the benefits of CETL. This study attempts to help fill this gap. Since Bloom's later work categorised the affective domain which refers to our values, attitudes and behaviours, Carter (1985) conceptualised the attainment of values and attitudes within a category of "personal qualities" specifically for professional education. Fink's taxonomy (2013) offers a framework for more accurately identifying the student LOs associated with CETL. Specifically, Fink emphasizes "learning to learn, leadership, interaction skills, ethical problem-solving, tolerance, and flexibility in the face of change" (Burwash, Snover & Krueger, 2016, p. 5), which we see as closer to the learning that happens in a CETL context. Fink's (2013) taxonomy identifies academic and personal growth objectives that are also relevant to CETL (Barnes & Caprino, 2016, p. 558). Carter's work contributes to an understanding of attitudes and values including personality characteristics such as emotional resilience (1985, p. 145). More recently, education research has examined affective outcomes, including commitments to racial and social justice via experiential learning such as CBL and S-L and Critical S-L (Gordon da Cruz, 2017; Harkins et al., 2020; Shephard, 2008).

Our focus on student knowledge, skills and values as our analytical framework is also based on the three domains of learning (cognitive, psychomotor, and affective) identified by Bloom (1956) and extended by Carter (1985) and Fink (2013). However, we recognise that these domains of learning and associated LOs are embedded within a western/European worldview (whereas Macfarlane et al., 2008 offers an alternative framework embedded within a Maori worldview) and therefore do not necessarily apply across all learning contexts.

Community Engaged Teaching and Learning Definition and Student Benefits

CETL is a broad term that refers to students' principled engagement with communities and community partners to work together to respond to community identified priorities by co-producing and disseminating knowledge. CETL has been defined and conceptualized in diverse ways, and the result is a body of literature that is fragmented and incoherent. This lack of definitional clarity makes measuring its efficacy and impact difficult. In response, we define CETL as a teaching and learning pedagogy that meaningfully integrates community engagement and curricular programming with intentional alignment between course LOs and community identified priorities. CETL involves mutually beneficial collaboration for the purposes of co-learning and co-creating relevant scholarship or scholarly activity that strengthens academic inquiry, personal and professional development and contributes to positive social change and social justice (this definition draws on Boland, 2013; Bringle & Hatcher, 1995; Gordon da Cruz, 2017; Johnson-Curiskis & Wolter, 2004; Kleinhesselink et al., 2015; Morton, 2013; Weigert, 1998). One of the differences between traditional S-L (in contrast to critical S-L) and CETL is S-L's emphasis on "service" that students do outside of the classroom and the critical reflection of their service experience in ways that connect to the course. In

traditional S-L the focus is on student benefit whereas, CETL's emphasis on ethical principles (as is often the case with critical S-L, and critical feminist S-L) is designed to lead to mutual benefits for all involved (the community partner, community and the students, faculty) and intentional social justice outcomes for the community integrated within a course. S-L has been more consistently and specifically defined and conceptualized, studied, and published. S-L has been identified in SoTL literature as one of the most common and distinctive pedagogical approaches that can strengthen relationships between campus and communities (Strand, 2003). Students in a course participate in an organized service activity that meets identified community needs and reflect on this activity in a way to gain further understanding of the course content, a broader appreciation for the discipline and an enhanced sense of civic responsibility (Thompson, Smith-Tolken, Naidoo & Bringle, 2011, p. 216).

Despite differences, much of the literature on S-L and CETL identifies similar benefits for students that align with the LOs framework discussed above. For example, research supports the claim that S-L (Hamilton, Banta & Evenbeck, 2006) and CETL improve a variety of student LOs (Chambers, 2009) such as: knowledge, (Deeley, 2015), skills such as critical thinking, creative problem-solving (Belliveau, 2011) team-building, group organization (Tarantino, 2017), interpersonal communication (Werder & Strand, 2011), personal and interpersonal development, social responsibility, engagement (Cochran & Weaver, 2017; Jagla, Furco & Strait, 2015) and *civic* values resulting from community based activities (Soria & Mitchell, 2016). We recognize values as an essential learning outcome that aligns with the principles and practices of CES that are the foundation for any kind of CETL (Falk & Vine, 2017; Litchfield & Dempsey, 2015). CES principles and practices associated with values include respect, reciprocity, commitment to working with community partners and their social justice priorities; valuing multiple knowledges and community expertise; balancing power via shared input, decision making and resources (Beaulieu et al., 2018). Since 2017, we have adopted the language of, and commitment to, "critical community engaged scholarship" (CCES) to incorporate a more explicit focus on social justice and the root causes of social issues (Gordon da Cruz, 2017). Gordon da Cruz coined this term to bring attention to the structural causes that underpin systematic sources of injustice. She engages Critical Race Theory (CRT) to highlight the work required by community-university partners to dismantle barriers marginalized communities face (Gordon da Cruz, 2017, p. 365). This conceptualization consciously captures the nature of CETL that we attempt to engage in with our students. This language brings attention to the important role *values* play in student LOs. We argue that CCES or more specifically, critical CETL helps students identify ways to work with community partners (i.e. valuing community partner knowledge and skills, sharing power and resources) and the nature of this collaboration to challenge and change dominant cultural structures, values and traditions that negatively impact marginalized populations.

Another core principle of CCES is connecting the co-creation of knowledge to collaborative action on social justice issues (Gordon da Cruz, 2017). The Canadian Institutes for Health Research (CIHR) details integrated knowledge translation or mobilization as "… knowledge users as equal partners alongside researchers will lead to research that is more relevant... and more likely to be useful to... knowledge users. Each stage in the research process is an opportunity for significant collaboration with knowledge users..." (CIHR, 2015). Framing knowledge mobilization (KMb) as an integrated approach opens more space for students, faculty, staff, and community to build and sustain authentic relationships and as an exchange that values multiple sources of expertise, emphasizing equitable collaboration as a core value in CETL. Students also learn how to create different KMb products to facilitate ongoing exchange of knowledge.

Methods

In addressing our overall research question "How do students experience community engaged teaching and LOs?", we focused on two main sub-questions: 1) What knowledge, skills, and values LOs were achieved with CETL? And 2) Does CETL contribute to the fulfillment of LOs in each specific course? If so, in what ways? Specifically, a) How well do student anticipated LOs align with achieved LOs?, and b) How well do achieved LOs align with instructor intended LOs?

To answer these questions we employed this mixed methods research design as a pilot before conducting a more extensive study. As Campbell et al. (2011) note, using a mixed methods quantitative and qualitative approach is particularly beneficial where different lenses are more likely to provide deeper insights into complex processes and interrelationships between various aspects of a given focus of study. This design is in recognition that we were interested in students' experiences and understanding of community engagement (e.g., definitions, challenges, and LOs), a comparison of student-perceived learning against instructor-intended LOs, and changes in CETL competencies pre- and post-CETL experience (where the competencies were defined in the literature). Hence, our pragmatic approach, which is a good platform for mixed methods (Onwuegbuzie, & Leech, 2007), included both deductive and inductive data analysis.

We collected quantitative data via closed-ended survey questions. We collected qualitative data via open-ended survey questions and from course material (including course syllabi, student reflection assignments, course activities and knowledge mobilization products). A detailed description of the multiple forms of data collected is included in the Data Collection/Analysis subsection below.

Participants

The sample for this study were students drawn from two 12-week Fall 2016 semester courses, a 4th-year undergraduate and a graduate-level course, both taught by one co-author. There were 33 undergraduate students and four graduate students. Table 1 provides an overview of the 30 students who consented to participate. The University of Guelph's Research Ethics Board reviewed and cleared the study for compliance with federal guidelines for research involving human participants (#16AU040). Given the difference in class sizes, we only draw on the qualitative data for the graduate course and both the qualitative and quantitative data for the undergraduate course.

Participant Demographics

In total, 30 students participated in our research, and included 23 fourth-year undergraduate students, 3 fifth-year undergraduates, 3 graduate students (6^{th}-year), and one unassigned graduate student. The majority of students were female (22) with just under one third identifying as male (8). Half of the students had no prior experience with CETL courses (15), while the other half indicated that they had taken one previous CETL course (15).

Data Collection/Analysis

The multiple forms of data collection include two course outlines, two surveys (T1 and T2), three reflections, a course activity (World Café), and course assignments (Final Projects). All were required components of the course except for the T2 survey. The students filled in a consent form using Qualtrics to indicate which course elements the researchers could include as data for this study and which elements could be quoted verbatim. There was an 81% participation rate, as 30/37 students gave permission to use their course work as data in the research. We used participant codes to link survey and reflection responses.

Quantitative data was analyzed using a Statistical Package for the Social Sciences (SPSS) and focused on competency comparisons between T1 (pre-CETL) and T2 (post-CETL) surveys using T-tests. Open-ended qualitative data was analyzed using NVivo, a qualitative data analysis software program. We collaboratively created coding frameworks, delegated the remaining coding in specific nodes for individual researchers to complete, and we checked each other's coding to ensure consistency and agreement. In general, we tried to code LOs that students provided some level of evidence for, rather than simply a general statement, unless followed by specific examples of how or to what extent which LO was achieved.

1. Qualtrics Survey: Each survey (one pre-CETL experience=T1 Survey; and one post-CETL experience=T2 Survey) was adapted from Jordan et al. (2012) and Blanchard et al. (2009) and focused on the principles of CES, progress toward and attainment of knowledge and skills (i.e. no skill, basic skills, communicate and teach effectively about practice, disseminate skill to a non-

academic audience, create/innovate/disseminate skill) related course-specific LOs, and an opportunity to reflect on the benefits and challenges with respect to the student's CETL course experience. We chose these scales because it was specific to CES and identified competency levels that students could understand.

2. The T1 survey was completed as a teaching and learning activity within the first three weeks of the courses. Students were verbally invited to complete the T2 survey, during the last week of class followed by an email invitation. Twenty-two students completed T1, 23 students completed T2. Fifteen students completed both the T1 and T2 survey, 12 of whom gave consent to be included in the study.
3. Reflections: Three open-ended reflections written by students (as part of their regular coursework) captured students' learning and critical reflection on their engagement activities and other LOs without burdening students (which is consistent with SoTL principles). The first and second reflections covered knowledge and skills and the third reflection covered values. The reflection component of the assignment helped us understand students' perspectives on their CETL (research questions #1 and #2). Of the 30 students who provided permission to use their reflections as part of the research, 22 completed all three reflections, 4 completed two reflections and 2 completed only one reflection. Twenty-six students completed the first and second reflections (R1 and R2, respectively) and 22 completed the third reflection (R3).
4. Course material: To understand the intended LOs and their alignment with activities, assignments, and assessment methods, we also reviewed the syllabi, CETL assignment guidelines and assessment tools. The course level LOs for each of the courses were used to compare the specific LOs coded within the student data collected.

The following course activities/assignments are additional forms of data used to corroborate findings from the above sources:

5. World Café: Within each course, a World Café process was used as a modified focus group (Frantz, Filies & Yassin, 2016). For the graduate class, this process was modified given the small class such that the note taker rotated at each round rather than the students.
6. Pedagogically, this was intended to contribute to student learning at the same time as assessing LOs. The topics covered for both classes included: LOs, Application of CES Principles and Practices, Application of CETL Process, and Assess Likes & Dislikes. A researcher was present at two of five tables for the undergraduate class and the graduate class table to take notes of the insights and results of the discussions that are relevant for the SoTL research component. Both the researcher's notes and the students' notes supplement the survey and reflection data.
7. Final Projects: Both graduate and undergraduate classes presented their findings to the community partners in oral and in written form. The researchers' collective observations from the oral presentations and the student's written final projects also served as supplemental data. Rigour was intentionally incorporated into the research design via researcher and data triangulation. With respect to researcher triangulation (for more information on triangulation see Denzin (2012) or Turner, Cardinal and Burton (2017), coding collaboratively enabled reflection of different interpretations of data requiring discussions to increase consistency. With respect to data triangulation, the qualitative and quantitative methods employed enabled verification of findings across methods in some instances (e.g., identifying the skills achieved via CETL) and complementarity of methods in other instances (e.g., values were covered in the qualitative data but not in the quantitative data).

The first and second author are faculty who have taught over 10 years using CETL pedagogy in multiple courses from first-year to graduate studies as a means of contributing to the training of community engaged scholars, and the third author's role is based at an institute on campus (Community Engaged Scholarship Institute) which builds capacity for and facilitates university-community partnerships across research and teaching and learning. This collaborative research grew out of a collective desire to better understand

students' experience of CETL as one means of improving our practices. Collectively, we also acknowledge that we bring our diverse identities to our analysis.

Findings

Our research investigated student LOs related to knowledge, skills and values and the extent to which these were achieved via the CETL component of the courses. Below we outline findings in relation to our research questions: 1) What knowledge, skills, and values LOs were achieved with CETL? And 2) Does CETL contribute to the fulfillment of LOs in each specific course? If so, in what ways? Specifically, a) How well do student anticipated LOs align with achieved LOs?, and b) How well do achieved LOs align with instructor intended LOs?

CETL Increased Students' Knowledge Competencies

Students' knowledge of CES increased significantly across multiple competencies as a result of the CETL pedagogy. Students showed the most marked increases in knowledge of CES principles in theory and practice along with knowledge of common challenges to CES. Students' own understandings and definitions of CES also expanded and became more complex between the time of the pre- and post-CETL surveys.

We investigated a total of 13 knowledge competencies via the online survey, with 11 of 13 competencies showing significant increases from pre- to post-CETL student surveys (see Table 1).

The five knowledge competencies (see italicized text in Table 1), in which students demonstrated the largest growth and significant increases in CES knowledge include:

1. Understanding concepts of "CE" and "CES"
2. Knowledge of the principles of CES in practice
3. Knowledge of models/methods of planning/processes of CES
4. Knowledge of common methodologies/approaches used in CES
5. Knowledge of common challenges to CES

Upon entering the CETL course, students indicated the least amount of basic knowledge about CES and its history. This is understandable given that half of the students (n=15) had no prior experience taking a CETL course and half (n=15) had only taken one prior CETL course. Therefore, many students were learning about CES and/or CETL in terms of basic knowledge, principles, and history for the first time, or had limited foundations despite previous experience with one CETL course. Our analysis includes findings from students who completed both T1 and T2 measures (Table 1).

Figures 1 and 2 illustrate significant shifts in students' knowledge of important areas of foundational knowledge of CES and its application across their CETL course experience.

Figure 1 focuses on students' knowledge of CES principles in practice. In the pre-CETL survey, most students indicated a familiarity with the basics of CES or an ability to apply CES knowledge to a CETL project ($M = 2.42$, $SD = 0.52$); $t(11) = -4.53$, p 0.001. By the post-CETL survey, students experienced a significant increase in their in knowledge of how to put CES principles in practice with the majority of students indicating a capacity to apply CES knowledge, or communicate and disseminate through teaching, critiquing or mentoring, or to be able to contribute or advance CES knowledge broadly or within their discipline ($M = 3.83$, $SD = 0.94$); $t(11) = -4.53$, $p = 0.001$.

Table 1
Knowledge of Community Engaged Scholarship Competencies

Knowledge Competency	T1 Mean (N=12)	T2 Mean (N=12)	p
Understanding concepts of "CE" and "CES"	*2.75*	*4.00*	*.000**
Familiarity with the basic literature and history of CES	1.75	2.67	.020*
Knowledge of the principles of CES in theory	2.50	3.67	.001*
Knowledge of the principles of CES in practice	*2.42*	*3.83*	*.001**
Knowledge of criteria/features of "scholarship"	2.67	3.67	.011*
Knowledge of differences/similarities between "traditional scholarship" and "scholarship of engagement"	2.38	3.31	.040*
Knowledge of models/methods of planning/processes of CES	*2.33*	*3.75*	*.002**
Knowledge of common methodologies/approaches used in CES	*2.25*	*3.83*	*.002**
Knowledge of common challenges to CES	*2.42*	*4.08*	*.001**
Knowledge of ethical issues that may arise in a research study	3.08	3.83	.043*
Knowledge of ways to evaluate CES	2.42	3.58	.041*

*p < .05.

Figure 1
Shift in "Knowledge of CES Principles in Practice"

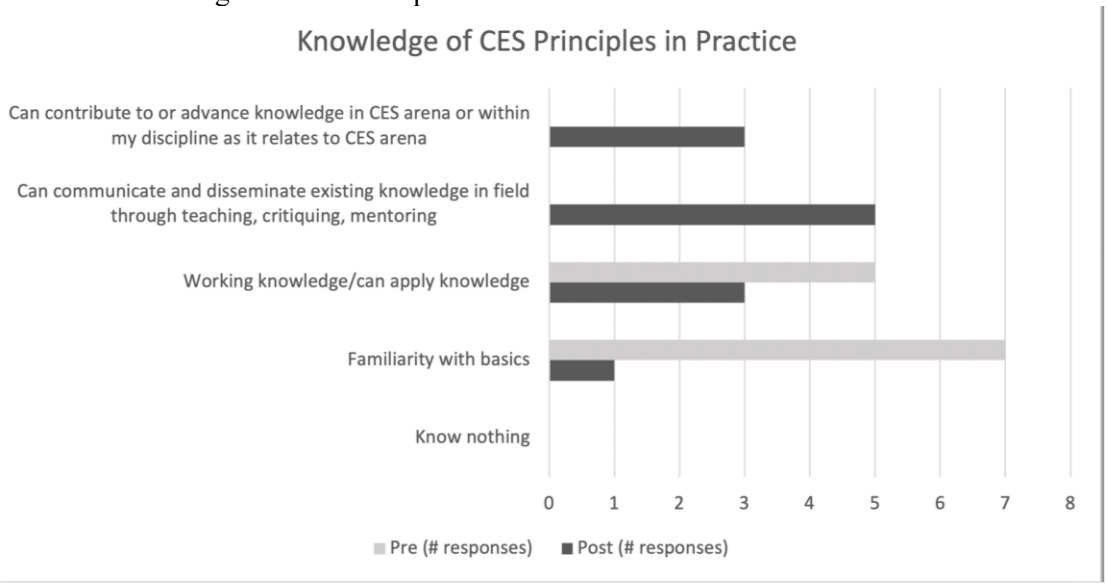
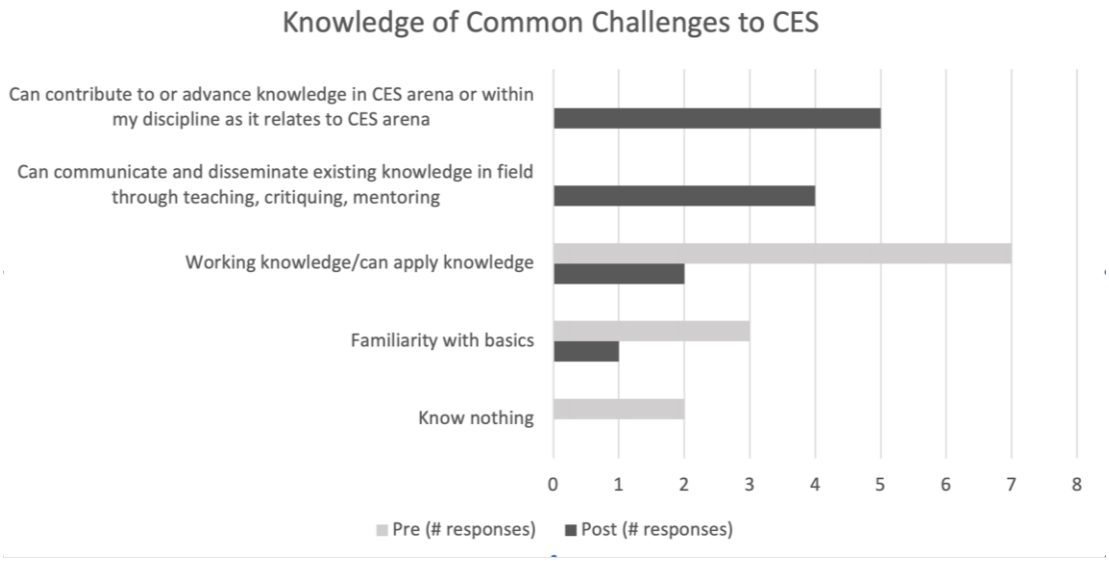


Figure 2 focuses on students' knowledge of common challenges to CES. In the Pre-CETL survey, most students indicated that they knew nothing, were familiar with the basics, or had working knowledge or could apply knowledge of common CES challenges (M= 2.42, SD = 0.79); t(11) = -4.69, p = 0.001). By the end of the semester, we noted a significant increase in learning as the vast majority of students reported that they had working knowledge, or could communicate or disseminate knowledge through teaching, critiquing, or mentoring, or that they could contribute to or advance knowledge in CES broadly or within their discipline around knowledge of common challenges to CES (M = 4.08, SD = 0.99); -4.69, p = 0.001.

Figure 2
Shift in "Knowledge of Common Challenges to CES"



We also asked students to qualitatively define CES in their own words. Differences between students' pre and post definitions of CES corroborate previous findings that students' understanding of CES evolved and advanced. Below are two quotes that demonstrate the nature of the increased knowledge gained by students. CES is defined as "Academic work that is guided by the community and meant to assist in some way." (F16034, pre-CETL survey)

> I would define CES as research that involves academics partnering with a community member/group to research and help solve problems within the community outside the university. The research needs are identified by the community partners, since they have more first-hand knowledge about what is happening in the community. (F16034, post-CETL survey)

The first quote which was before the CETL project, provides a narrow definition of CES focusing on "service", whereas the second definition, which was post the CETL project is more thorough and recognizes and prioritizes community expertise in defining and solving issues.

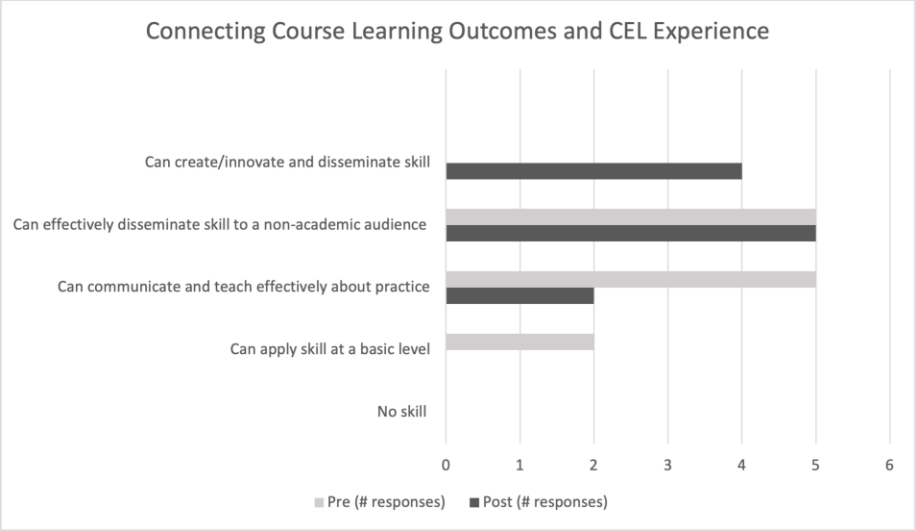
Overall, students demonstrated significant learning across multiple CES knowledge competencies, including knowledge of CES principles in theory and practice, knowledge of common challenges to CES, and more complex understandings and definitions of CES.

CETL Increased Students' Skills

Students gained skills because of their CETL involvement. The most significant positive change was students' ability to make connections between the course LOs and their CETL experience. In other words, students could see that they had opportunities to practice and hone LOs such as communication, collaboration and problem-solving, and based on student outputs there was evidence that these skills increased.

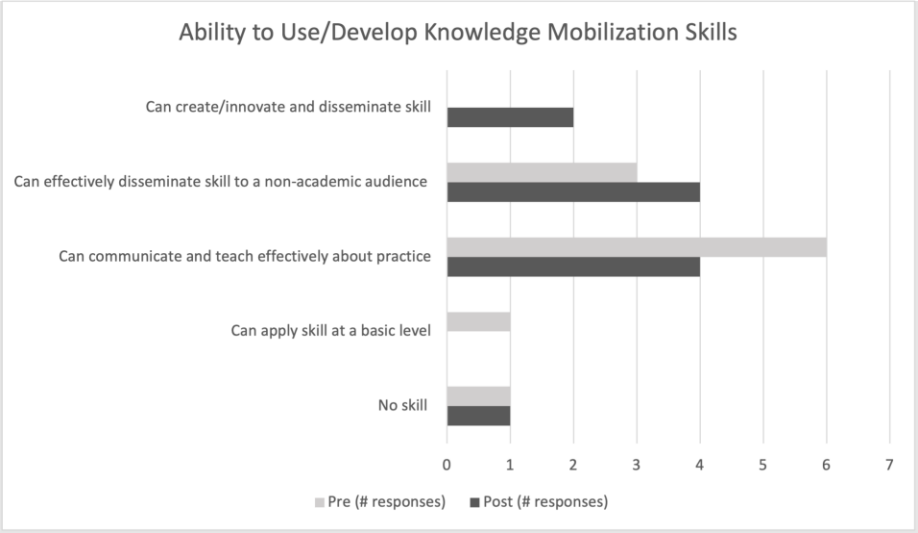
We compared the changes to 13 skills' competencies pre- and post-CEL survey. Although 12 skill competencies explicitly related to the courses LOs, of these, only two increased significantly. Students' ability to make connections between course LOs and their CETL experience increased significantly from the time of the pre-CEL survey ($M = 3.25$, $SD = 0.754$) to the post-CEL survey ($M = 4.25$, $SD = 0.754$); $t(11) = -2.87$, $p = 0.15$, with all students indicating that they could teach effectively about practice, or disseminate this skill to a non-academic audience, or create/innovate around this skill by the end of the course (figure 3).

Figure 3
Shift in "Connecting Course LOs and CETL Experience"



Additionally, students' ability to develop and use knowledge mobilization skills (KMb) increased significantly from the time of the pre-CEL survey (M = 3.00, SD = 0.894) to the post-CEL survey (M = 3.55, SD = 1.128); t(10) = -2.63, p = 0.025, with the vast majority of students indicating a competent, proficient, or expert level of attainment by the end of the course (figure 4). Interestingly, students initially identified KMb skills as their lowest proficiency, however, increases in KMb skills were expected by the researchers since most traditional courses provide no opportunity for students to learn about or practice KMb, not to mention alongside a community partner.

Figure 4
Shift in "Ability to Develop/Use Knowledge Mobilization Skills"

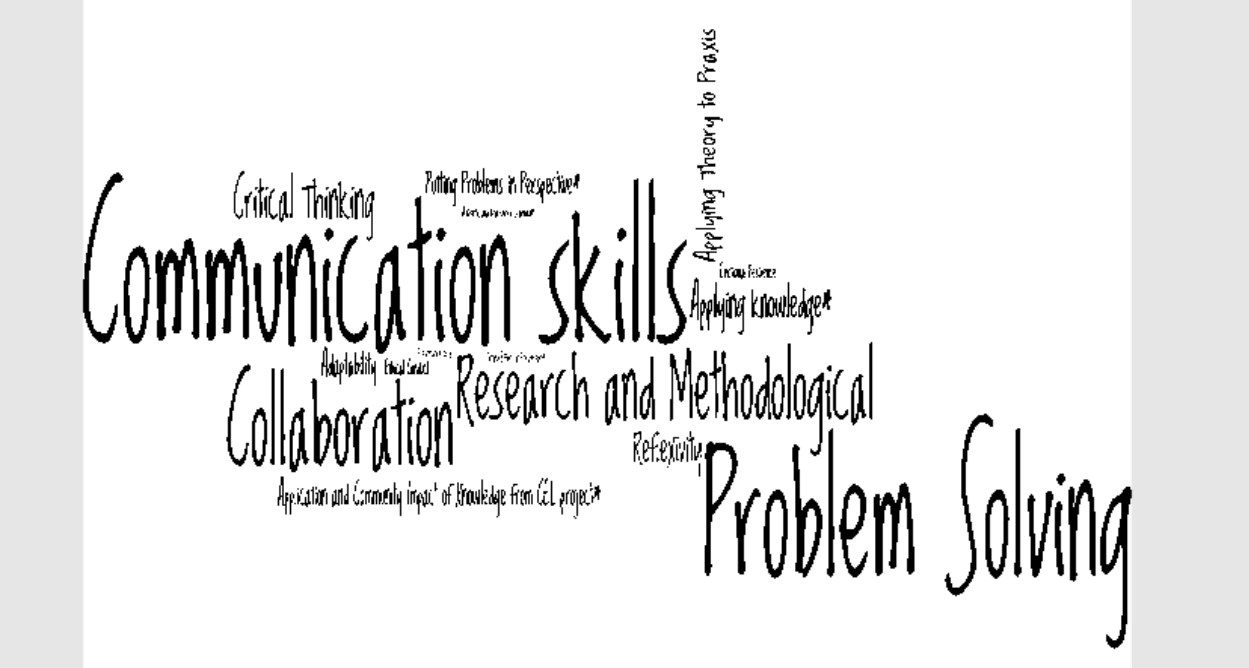


CETL Increased Students' Critical and Creative Thinking, Communication, Collaboration and Problem Solving.

Findings from students' qualitative reflections and survey data indicate that critical and creative thinking, communication, collaboration and problem-solving were the most frequently achieved skills. The word cloud (Figure 5) captures the skills students discussed within their post CETL reflections, by representing in visual form the number and relative frequency of each coded skill. The * denotes skills not explicitly noted within the course learning outcomes. Students achieved an ability to be critical and creative thinkers, specifically with respect to being reflexive about their own positionality and emotional resiliency. Collaboration as a theme cross over multiple LOs. For example, students achieved greater communication and collaboration skills. Student learning in these areas is likely a result of increased opportunities to practice collaborating and communicating with one another and their community partner through CETL. With respect to communication and collaboration, the qualitative and quantitative data align and reinforce each other. Students came in not having much experience doing collaborative work including presentations so experiencing a big jump in these skills made sense In another example, qualitative data analysis revealed that students did not have a baseline or anticipated skills for managing collective teaching and learning in changing circumstances, however, achieved LOs included adaptability and collaboration

These self-reported findings are also evidenced within the assessed final products. We turn now to two examples, the first related to collaboration and the second related to communication.

Figure 5
WordCloud of Most Frequent Skills identified within Post-CETL Reflections



Evidence of Students' Collaboration Skills

The 2016 Ontario Association of Interval and Transition Houses (OAITH) Intimate Partner Femicide Report from the 4th-year sociology course provides evidence of students' collaboration skills. In the report's methodology section, students are explicit about this collaboration that produced the analyses, findings, and dissemination products.

> Although different groups used different tools and strategies to find new femicides or additional information for previously identified femicides, common strategies included: search engines such as Google, newspaper databases like Factiva and Canadian Newsstand accessed through the University of Guelph library database, Homicide Canada database (http://homicidecanada.com), Facebook profiles and obituaries... The information collected through the search strategies was then added to an excel spreadsheet accessible to all class members. This included columns for key information, such as the woman's name, age, race, cause of death, relationship with offender, and perpetrator characteristics. This information was then used to create the final 2015-2016 list, which includes a biography and, if possible, a picture of the woman. (SOC 4030 F16 Advanced Topics in Criminology 2016).

Evidence of Students' Communication Skills

In the final CETL community partner report written by the graduate class, evidence of communication skills is provided. For example, students created charts to communicate the similarities between the primary research findings and relevant academic and grey literature. Figure 6 demonstrates communication skills that were used to ensure that co-created knowledge was communicated in ways that a specific audience could use for a specific purpose.

Figure 6
Example of a way to highlight findings in a community partner report (Morton et al., 2016)

Youth Engagement and Peer/Youth Led	
Interview Findings	**Academic/Gray Literature**
✓ Many of the at-risk and/or street-involved youth in rural Wellington are not engaged in the services that are being offered. ✓ Suggestions for more successfully engaging youth in the future include: o meeting the youth where they are, o more services available at school, o user-friendly services, o youth focused services, o more accessible services, o more informal services re: communication between service providers and youth and making appointments	✓ Paterson and Panessa (2008) describe youth engagement as allowing young people to share power with adults in designing and maintaining a program. ✓ There is a lack of research in rural areas on engaging youth. ✓ Youth engaged runs on a continuum from getting the youth in the door to use the service to having them involved in helping to plan and develop services (Barry et al. 2002; Bridgman 2003; Paterson and Panessa 2008;).

CETL Increased Students' Awareness & Understanding of Values

Students increased values LOs including relationships, reciprocity, decision making, meaningful outcomes, and social change.

In a reflection assignment one student highlights recognizing the value of a collaborative process to help work on a social and political problem,

> "The visit to Queens Park and hearing from members of OAITH, a small group themselves who have made a world of a difference...I think I finally realized that it didn't matter we weren't solving this abstract, heavy issue of women violence, but our efforts combined with an excellent partnership together will make a difference, someday, in one way or another" (F16031-R3, post-CETL reflection).

Students explicitly noted values LOs within the open ended component of the post-CETL survey.

> I think the most important learning outcomes that can be achieved through the CEL project are the social justice, social change, civic engagement and ethical learning outcomes. The CEL gave us the opportunity to apply the community-engaged scholarship knowledge, skills and values, while demonstrating problem solving skills, integrity and responsibility. This was done through writing the report as well as creating the database of femicides. All of this came together at the Wrapped in Courage campaign that we got to be a part of. (F16006-Q, post-CETL survey)

Students were more likely to identify increased levels of personal attributes rather than the kind of values that are more often associated with student LOs.

CETL Increased Students' Personal Attributes vs CETL Values

Students also identified achieving more gains related to personal attributes than they expected. Students pointed out increased personal attributes such as accountability, commitment, empathy, open mindedness, and perseverance when asked to reflect on the impact that the CETL project had on the values LO. As one student noted:

> Perseverance because there were several times throughout the course of this project that we as a class and my group personally hit roadblocks where we had to adjust and keep going. A roadblock we hit as a class was when we did not get the coroner's data. We had to find new ways of obtaining the information we needed for the femicides. We did this and we were able to move forward in the project without the coroner's data. [F16015-R2Q, mid-CETL reflection]

CETL principles align with the attributes students achieved and therefore we connect them. For example, in their reflection one student highlighted respect.

> One thing I have learned over and again throughout this project is that respect is a verb. Students, teachers, and community partners can only truly be on the same level when we all actively practice building trust and respect. (F16035-R3, post-CETL reflection)

CETL values were also explicitly noted. The following quotes highlight civic engagement, social justice, and ethics, respectively:

> The moment that impacted me the most during the Queen's Park visit, ...it occurred to me that the CEL project is much more than just a project and the women who are on the list were much more than just a picture with a short biography.... As a student, you do not always get the opportunity to be involved with such an impactful project. (F16013-R3Q, post-CETL reflection)

> ... I believe the values of respect, community voice, collaboration and partnership, and ethical research with purpose were reflected in our work. My experience in this course has reaffirmed my belief in doing research that can make a difference…I believe the knowledge I have gained in this course has strengthened my belief in the value of community driven and engaged research. (F16037-R3Q, post-CETL reflection)

> By both critically engaging with the research, and by effectively communicating both our insights and findings with our community partner, we not only foster trust and respect within the partnership, but also nurture the project's ethical capacity and our team's professionalism. Our research is meaningless without integrity. Conserving the ethical standards of this project was key, not only while we gathered information and while we constructed our final report, but also in the delivery of our findings and in the use of the report hereafter. (F16035-R3Q, post-CETL reflection)

Clear connections between skill development and the value of that skill (i.e. communication skills, collaboration skills, and problem solving) were made. Although some students seem to have a harder time expressing and identifying CCES values, and at times would conflate it with personal attributes, students' awareness of and attention to CCES values increased.

Discussion

CETL meaningfully contributes to student achievement of multiple and bidirectional course LOs. Our study found that LOs related to knowledge, skills and values were developed to varying degrees via student CETL opportunities.

CETL Increased Students' Achievement of Department- and University-Level LOs

CETL LOs map onto course-specific, program level, and institutional level LOs well. This is significant since the SoTL research has identified such alignment as a sound pedagogical principle and best practice referred to as Constructive Alignment (Biggs, 1996; Fink, 2013) and the Course Design Model (Ellis, 2007). "Critical and creative thinking and understanding" is a program and institutional level LO. Perceived achievement of emotional resilience and reflexivity in relation to complex and emotionally challenging social issues (e.g. violence against women) is an example of course level LO that aligns with the broader critical and creative thinking and understanding.

Knowledge and communication LOs provide other examples of alignment between specific and broader level LOs. For undergraduate students, collaboration, communication, and ethical conduct stood out significantly within their critical reflections. For graduate students, knowledge and communication LOs were achieved through gaining knowledge related to CES, applying knowledge, and seeing important connections between sociology as a discipline and CES. Social justice, social change, civic engagement, and ethics was a final major category of alignment between specific to broader level LOs where students' critical reflections demonstrated increased knowledge of ethics and social justice.

Our research demonstrates that CETL contributes to undergraduate and graduate degree-level LOs. Achievement of these higher-level LOs demonstrate the value of CETL for student learning as a rich opportunity to communicate and collaborate with community partners, faculty and course instructors, staff, and fellow students in new and meaningful ways.

CETL Increased Specific Course LOs

Much of the literature on CETL and S-L (Eyler et al., 2001) impacts is framed as the benefits or "unintentional outcomes," or part of the hidden curriculum for learners rather than intentional LOs. An exception is Goodhue (2017) who identifies a focus on values-engaged assessment that can provide graduate students an opportunity to develop relationship qualities, system transformation and over time partners' empowerment.

Our survey and reflection data demonstrates that in addition to supporting more generic course LOs and transferable LOs typical in university courses (see our department-level LOs https://socioanthro.uoguelph.ca/current-undergraduate-students/learning-outcomes) there are also intended LOs that result specifically from CETL opportunities. One example is knowledge of the principles of CES in theory and practice, knowledge of common methodologies/approaches, and knowledge of common challenges. In addition, LOs related to value competencies and personal attributes are developed explicitly via CETL opportunities. For example, in the graduate course, professional and ethical capacity demonstrates CETL values like equity. We also found evidence of personal attributes such as flexibility, perseverance and accountability arising from the authentic learning experiences connected to the uncertainty of an experiential/applied context.

CETL Increased Students' Values Competencies

One of the most unique findings from our research relates to values. CETL provides distinct opportunities to enhance values competencies alone and at the intersection of skills. Identifying the impact that CETL can have on students' skills and values is somewhat of a gap in this literature to which our research contributes.

Being explicit about the existence and importance of CES principles and practices and more recently CCES and how they can and should guide CETL had an impact on students' awareness of their own values and attitudes and on the skills that are required to put these values into practice. CETL provides an opportunity for students to make more explicit connections between values such as respect, trust, commitment, reciprocity, social justice as well as the students' individual and collective attitudes and actions, and the skills they possess to use them. One conceptualization of values LOs in higher education literature that aligns with CCES are "civic values" and this has been defined to include "... respect for

freedom and dignity, empathy, open-mindedness, tolerance, justice, equality, integrity and responsibility to a common good (National Task Force, 2012)." (Dias & Soares, 2018, p. 364).

In addition to the conceptualization of CES with *civic* values, CETL provides an opportunity for students to identify, appreciate, prioritize and develop broader and structural level values that are closely aligned with CCES principles like respect, trust, reciprocity, power-sharing, equity and social justice. In fact, CETL is well suited to offer students an opportunity to identify and practice skills and values because of the embedded experiential learning environment CETL offers.

Conclusion

Our study demonstrates that CETL offers undergraduate and graduate students an important opportunity to identify, demonstrate and develop essential LOs across and between the domains of knowledge, skills, and values. Specifically, students increased their knowledge of CES principles in theory and practice, increased an appreciation of the challenges to CES, and were in a better position to understand the complexities inherent in CES. Students' skills such as communication, collaboration and problem-solving increased in combination with increases in personal attributes such as accountability, commitment, empathy, open-mindedness and perseverance, all of which was attributed to their CETL experience.

One implication of our findings is that CETL provides meaningful ways for faculty, programs and post-secondary institutions to satisfy institutional learning outcomes. They also offer students increasingly sought-after pedagogical experiences including Experiential Learning, High Impact Educational Practices, Authentic Assessments and other Active Learning opportunities well known to enhance student outcomes (Schoepp, 2017).

Another implication is the opportunity that CETL provides students in relation to 21st-century skillset. This is generally understood to encompass a range of competencies, including critical thinking, problem solving, creativity, meta-cognition, communication, digital and technological literacy, civic responsibility, and global awareness Kim & Seidman (2019). The Future Skills Centre (2021) identifies "working in a team", "problem solving", "creativity", "dealing with uncertainty in an enterprising way", and "communication" as core elements of "effective entrepreneurship" that are crucial to driving Canadian innovation and progress across many sectors and in the midst of an unprecedented pace of technological shifts and ongoing social complexities of our time (p. 26). Critical and creative thinking and flexibility are further identified as crucial transferable skills for "the future of work" in Canadian society (The Future Economy, 2021). CETL is a critical pedagogy which provides students with opportunities to develop and hone complex knowledge and skills identified as integral to current and future contexts of work and innovation in Canadian society with additional attention to important connections between values and addressing complex social change in collaboration with justice-seeking populations.

Although our study draws on a limited sample, focuses on sociology courses and on students, and the values component was only addressed qualitatively; the insights gained here provided a rationale for a subsequent study which draws on a larger sample size with students across multiple disciplines and captures the values component via a survey, and interviews that include community partner perspectives. There is a lot more to understand about the potential teaching and learning opportunities and challenges that exist for faculty, staff, community partners and students in working together on CETL projects in post-secondary education. Still, our findings encourage us and colleagues in different programs and institutions to continue to examine the important role CETL can play in assisting undergraduate and graduate students to know, do, and be in ways that align with essential critical community engaged scholarship principles rooted ultimately in values. CETL is good pedagogy that can mentor the next generation of teachers and learners to prioritize and be better prepared to work on and address the root causes of wicked problems including social and racial injustice. As such it has the potential to be applicable well beyond our current context.

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Acknowledgement

We respectfully acknowledge our presence, teaching, learning, and writing on Indigenous lands and are committed to continuously working towards respectful relationships. We offer our gratitude to the undergraduate and graduate students enrolled in SOC 4030 and SOC 6400 in Fall 2016 at the University of Guelph for their participation in this research. We acknowledge our community partners at the Ontario Association for Interval and Transition Houses (OAITH) and the Wellington-Guelph Drug Strategy (WGDS) for their ongoing dedication to Community Engaged Teaching and Learning (CETL) and incredible contributions to our communities. Thank you to the Educational Developers at the University of Guelph who led the Scholarship of Teaching and Learning (SoTL) research program (Inquire) in which this research was conceptualized and to our peers in the cohort whose feedback strengthened our work. Last, special thanks to our co-author Dr. Mavis Morton who opened her undergraduate and graduate CETL courses to this collaborative research.

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