



Beth Archer-Kuhn, UNIVERSITY OF CALGARY, beth.archerkuhn@ucalgary.ca

Yeonjung Lee, UNIVERSITY OF CALGARY, yeolee@ucalgary.ca

Savannah Finnessey, NORTH YORK GENERAL HOSPITAL, savannah.finnessey@nygh.on.ca

Jacky Liu, UNIVERSITY OF CALGARY, kakeijacky.liu@ucalgary.ca

Inquiry-Based Learning as a Facilitator to Student Engagement in Undergraduate and Graduate Social Work Programs

ABSTRACT

This seven-cohort mixed methods study examines student engagement in their learning in higher education utilizing inquiry-based learning. The study was conducted in varied settings (on-campus, in community, and study abroad), and across various degree levels (undergraduate, graduate, and doctoral) in social work education. Study results reveal an increase in participant reflective and integrative learning, and an increase in higher-order learning. Qualitative findings support the results through four emergent themes: (1) experience of inquiry-based learning, (2) adjustments required for learning process, (3) impactful facilitators to learning, and (4) developing deep learning. Implications and recommendations are offered for higher education and professional programs.

KEYWORDS

student engagement, inquiry-based learning, professional education, social work, mixed methods

INTRODUCTION

This study explores student engagement in their learning through the application of inquiry-based learning in social work education across seven cohorts ranging from undergraduate to doctoral students. Inquiry-based learning is a teaching strategy that facilitates active learning through a self-directed, question-driven search for understanding that affords the opportunity to explore a subject and develop central questions through their exploration (Hudspith & Jenkins, 2001; Justice et al., 2002). When used as a pedagogic tool, inquiry-based learning is a process about discovery and systematically moving to higher and deeper levels of understanding. Inquiry allows students to explore individual interests and develop critical-thinking skills that lead to personal discovery and deeper understanding of their central question. For example, a report to the Alberta Ministry of Education links inquiry-based learning to the development of critical thinking skills (Alberta Education, 2010), while a number of researchers (Hudspith & Jenkins, 2001; Taylor & Parsons, 2011; Saunders-Stewart, Gyles, & Shore, 2012) report finding an increase in student engagement using inquiry-based learning as a teaching method.

One challenge in understanding the uptake of inquiry-based learning in higher education is the absence of a widely agreed-upon definition (Furtak, Seidel, Iverson, & Briggs, 2012). In our study, we approached inquiry-based learning as a student-centered approach to learning that promotes student freedom, choice, and decision making about their own topic and development of their own questions (Little, 2010; MacKinnon, 2017; Wright, 2011). For some, inquiry-based learning has multiple forms of delivery and support: structured, guided, or open inquiry (Spronken-Smith & Walker, 2010). Thought of on a spectrum, types of inquiry-based learning reflect varied levels of instructor support and student independence. In structured inquiry, the instructor offers greater support through increased structure. For example, students explore a topic that is chosen by the instructor. Whereas, in open inquiry, students choose their own topic for inquiry, make all decisions about their learning process, and receive minimal guidance from the instructor (Spronken-Smith & Walker, 2010). Based on findings from our study, we agree with prior study in social work education that reveals students' initial need for more structure and guidance (Yesudhas, Lait, Josy, & Impana, 2014) while also moving through guided and open inquiry.

Despite a good understanding of inquiry-based learning as used in grades K–12 (Friesen & Scott, 2013), much less is known about inquiry-based learning in higher education. Disciplines such as science, mathematics, education, and nursing have taken up inquiry-based learning, noting such benefits as increased student engagement in their learning and the development of critical thinking skills. In social work education, this same skill development is necessary, yet few studies of inquiry-based learning appear in social work literature (Braye, Labacq, Mann, & Midwinter, 2003; Plowright & Watkins, 2004; Yesudhas et al., 2014; Zorn & Seelmeyer, 2017). Given the social justice lens in social work (Pulliam, 2017), the integration of inquiry-based learning into the classroom would be a means to advancing social work's commitment to social justice. Studies reveal that inquiry-based learning problematizes the traditional student/teacher relationship and instead promotes a more egalitarian relationship, where both positions share the role of knowledge creation whereby a student (learner) can be a teacher and a teacher can be a (learner) student (Little, 2010; Levy & Petrusis, 2012; Saunders-Stewart et al., 2012).

Our study revealed the ways in which inquiry-based learning can support student engagement in their learning across program levels and through multiple methods and contexts. We examined the student experience of inquiry-based learning in undergraduate and graduate education when it is introduced in a structured way, with guidance provided through the development of inquiry questions, then supported with guided and open inquiry for the remainder of the courses. Our findings on the experiences of social work students add to the research literature on inquiry-based learning as used with social work students. Specifically, our research addressed the following question: ***In what ways do student experiences with inquiry-based learning explain student engagement in social work education?***

THEORETICAL FRAME

Traditionally, teachers transfer information and knowledge to students, and students receive it, similar to the banking method discussed by Freire (1988). This didactic relationship of teacher as knowledge keeper and student as knowledge receiver limits student questioning and leaves little space for student engagement (Buckner & Kim, 2014). In contrast, inquiry-based learning promotes and fosters student engagement as partners in knowledge creation, existing knowledge (Aditomo, Goodyear, Bliuc, & Ellis, 2013), and new knowledge (Kuhlthau, Maniotes, & Caspari, 2015), and as such, their direct and active role is encouraged (Little, 2010). Inquiry-based learning requires deep engagement

with subject material and the inquiry process (Justice, Rice, Roy, Hudspith, & Jenkins, 2009) and often lends itself to improved relationships and partnership between teacher and student (Buckner & Kim, 2014; Little, 2010).

Inquiry-based learning falls within a constructivist worldview, and our experiences with it can be understood using a lens of constructivism and social constructivism, while social constructivism has a focus on learning that comes from interactions with others (Miller-Young & Yeo, 2015). During the inquiry process, students construct knowledge from new and former knowledge to create new subjective realities. Situated within the constructivist tradition, inquiry-based learning recognizes multiple ways of knowing and positions students as co-constructors of knowledge and instructors as facilitators and learners (Apedoe & Reeves, 2006; McKinney, 2014; Saunders-Stewart et al., 2012; Spronken-Smith & Walker, 2010; Woolf, 2017; Yesudhas et al., 2014). In doing so, Cochran-Smith and Lytle (2001) assert, critical questions such as what is valued as knowledge, who creates it, and who has access to it are raised and deconstructed. In concert with ideas of constructivism, inquiry-based learning also aims to change the relationship, with power shared between student and teacher (Levy, 2012; Saunders-Stewart et al., 2012).

We studied student engagement in social work education through inquiry-based learning and then applied inquiry-based learning as the theoretical framework to examine student engagement in their learning. The project illustrates our conceptualization and application of inquiry-based learning in seven varied undergraduate and graduate social work courses as we examined student experiences of inquiry-based learning in social work education. Our findings include connections between student engagement in their learning and the increase in higher-order learning and reflective and integrative learning.

LITERATURE REVIEW

Inquiry-based learning is a pedagogical method that engages students in investigating real-world problems and making action plans (Yesudhas et al., 2014). In some higher education disciplines, inquiry-based learning is defined in context as a set of instructional practices that are designed to engender high-order intellectual and academic skills, particularly for the dual purpose of seeking knowledge and grounding teaching theory in an inquiry-based process (Justice et al., 2009). Justice, Warry, Cuneo, Inglis, Miller, Rice, and Sammon (2002) propose a five-stage pedagogical process: (1) engaging with a topic through a review of the literature, (2) developing questions, (3) gathering and analyzing data, (4) synthesizing and communicating the new knowledge, and (5) evaluating the output. Levy (2012) promotes inquiry-based learning as a sequential process through identifying, pursuing, producing, and authoring. Hudspith and Jenkins (2001) add that inquiry-based learning is artful and creative, allowing students to develop critical-thinking skills. Regardless of how it is defined, the purpose of inquiry as a pedagogic tool is to help students develop the necessary skills to enable them to explore and find answers to their central question (Hudspith & Jenkins, 2001).

It is well documented in the research literature that inquiry-based learning is likely to give students more benefit in terms of deep learning and understanding through increased student engagement than do traditional teaching approaches (Dunleavy & Milton, 2009; Healey, 2005; Hudspith & Jenkins, 2001; Yesudhas et al., 2014). Student-focused approaches such as inquiry-based learning allow learners to construct their own knowledge through active participation such as

undertaking their own projects or gaining experience through applied research or consultancy through work-based learning (Healey, 2005). Aditomo, Goodyear, Bliuc, and Ellis (2013) have found that the educators hoped that inquiry-based learning would allow students to think critically about their personal paradigms and the impact on their practice.

In higher education, inquiry-based learning is perceived as fostering students' perception of themselves as part of a professional community and academic professionals rather than students of a subject (Little, 2010). Informed by constructivist ways of knowing, inquiry-based learning inspires an approach of shared power and empowerment. Although inquiry-based learning has been adopted in various disciplines in higher education, there is limited documentation of its use in social work research literature.

Inquiry-based learning in social work education

Our review of the literature revealed only four publications on the use of inquiry-based learning in academic journals and social work-related databases. We searched *Social Service Review*, Social Work Abstracts, Sociological Collection, PsycINFO, Google Scholar, SocINDEX, and ERIC specifically for inquiry-based learning in social work education or higher education, and we searched targeted social work journals (*British Journal of Social Work*, *Journal of Social Work*, *Canadian Social Work Review*, *Journal of Teaching in Social Work*, *Journal of Social Work Education*) and a variety of journals that focus on studies in higher education.

Of the four studies we found, Plowright and Watkins (2004) examine inquiry-based learning in a social work program in the United Kingdom. They differentiate inquiry-based learning and problem-based learning, situating inquiry-based learning as exploratory, extending and promoting integrated professional understanding and problem-based learning as reflective of negative connotations of social work's history (Plowright & Watkins, 2004). The focus of utilizing inquiry-based learning is on student curiosity, promoting wide exploration, critical reflection, and openness to possible explanations and interventions (Plowright & Watkins, 2004).

Braye, Labacq, Mann, and Midwinter (2003) report on an examination of inquiry-based learning within social work law. Yesudhas, Lait, Josy, and Impana (2014) reflect on the application of inquiry-based learning outside of the classroom in field education among social work students in Mumbai, India, noting the advantage of inquiry-based learning as a teaching and learning strategy that permits students to participate in the co-creation of knowledge. Despite this pedagogical advantage, the authors find, to take full advantage of inquiry-based learning, students require greater information literacy and more student engagement than they do in traditional teaching approaches (Yesudhas et al., 2014).

In Germany, Zorn and Seelmeyer (2017) used inquiry-based learning with information and communication technologies in a social work seminar course. Arguing that technological education should be a central component of social work, the authors assert that inquiry-based learning as a pedagogical method is most appropriate for teaching social workers technological literacy and preparing for future practice. In two of the studies (Braye et al, 2003; Zorn & Seelmeyer, 2017), a guided version of inquiry-based learning is utilized, limiting student choice by instructor directive (the instructors provided the topic to be explored).

Based on our literature review, we included in our project a number of learning activities to support students' inquiry-based learning journey with information literacy and engagement. In our study, we intended inquiry-based learning as a student-centered approach promoting student freedom, choice, and decision making about their own topic and question formulation (MacKinnon, 2017; Wright, 2011). Understanding the need for initial guidance, we provided structure and guidance to the point of development of the inquiry question.

Study context

We developed our understanding and utilization of inquiry-based learning over time the last eight years, through trial and error, starting slowly with an activity, moving to an assessment task and eventually to an entire course (see Hudspith & Jenkins, 2001 for further details on getting started with inquiry-based learning). In our Faculty of Social Work, inquiry-based learning is not discussed as a teaching and learning approach, and therefore the course syllabi required adaptation. Following the recommendation of Yesudhas, Lait, Josy, and Impana (2014) that the students be introduced to inquiry-based learning prior to beginning their experience, we created an online module that students view prior to the beginning of the course, along with some readings, that together provide an opportunity to gain a basic level understanding of inquiry-based learning. Additionally, Friesen and Scott (2013) identify three key strategies of inquiry-based learning leading to deep learning: scaffolding; formative assessment; and powerful, critical, and essential questions.

Dunleavy and Milton (2009) find that students identify three criteria for increasing student engagement in the learning environment: (1) learn from and with each other and people in their community, (2) connect with experts and expertise, and (3) opportunities for dialogue and conversation. We integrated these strategies and included scaffolding of assessment tasks and formative feedback to support inquiry process such as the development of powerful, critical, and essential questions, as known as the central question (Hudspith & Jenkins, 2001), utilizing a structured controversy (Archer-Kuhn, 2013), videos, brainstorming, and a checklist for the development of an inquiry question (Roy, Kustra, & Borin, 2003). In this way, students from all seven cohorts receive information and education about inquiry-based learning and the process of developing inquiry questions to pursue.

METHODOLOGY

We used an explanatory mixed-methods research design, collecting both quantitative and qualitative data. This type of design is used when the results of one data set require further explanation (Creswell & Clark, 2011) and is supported in previous social work research (Engel & Schutt, 2016). Explanatory mixed-methods designs begin with the quantitative strand of data collection and add the qualitative component to help explain the quantitative results. The ethical application for this study was approved by the university research ethics board, and a license agreement for the use of the National Survey of Student Engagement instrument was obtained. Study participants were recruited from seven social work courses in two study sites, including two international group study programs for both Bachelor of Social Work (BSW) and Master of Social Work (MSW) students, a six-week master's-level summer course, an intensive master's-level summer block-week course, two bachelor's-level 13-week semester courses, and a doctoral 13-week semester course (Table 1), all taught by the research team.

Table 1: Description of study participants

COHORT	LEVEL OF EDUCATION	STUDENTS IN COURSE	STUDENTS COMPLETING SURVEY	STUDENTS IN FOCUS GROUP	LENGTH OF COURSE
1	BSW and MSW (GSP**)	8	4	2	2 weeks
2	MSW*	26	4	2	6 weeks
3	BSW	33	12	5	13 weeks
4	BSW and MSW (GSP**)	18	10	3	2 weeks
5	MSW	19	9	4	1 week***
6	BSW	48	13	3	13 weeks
7	PhD	5	2	n/a	13 weeks

Note. *cohort from central Canada university

**GSP was an intensive two-week study abroad in the United Kingdom

***Block week is an intensive six full days of coursework

A total of 157 students were enrolled in social work courses where inquiry-based learning pedagogy was incorporated from 2016 to 2018. Among these students, 69 agreed to participate in the study and completed the pre-course survey, while 52 study participants completed the post-course survey. The response rate of participants for completing both the pre- and post-course surveys was 33.1 percent. From the 52 students, six semi-structured focus groups interviews were facilitated with 19 participants. Results from the quantitative analysis informed the qualitative phase, while the focus group data helped to explain the quantitative data about the student learning experience (Creswell & Clark, 2011).

QUANTITATIVE DATA COLLECTION AND ANALYSIS

In the first phase of data collection, a survey was distributed to assess, through a pre/post comparison, student engagement and experiences in diverse courses using inquiry-based learning. Several measures and scales were used, including the National Survey of Student Engagement survey, the higher-order learning subscale, and the reflective and integrative learning subscale. As a measure, the National Survey of Student Engagement had good internal consistency reliability and test-retest reliability as evidenced in previous studies (Choi & Rhee, 2013; Lester, Leonard, & Mathias, 2013). Both the higher-order learning subscale and the reflective and integrative learning subscale were measured on a 4-point Likert scale (1 = very little and 4 = very much, and 1 = never and 4 = very often, respectively). The items were analyzed according to the means and standard deviations of each domain. After conducting separate reliability analyses, all subscales for both pre- and post-course obtained a satisfactory Cronbach α (0.83-0.86). Additional information such as gender, age, level and nature of education, and academic performance were collected.

Descriptive statistics were conducted to assess the distribution of the participant basic demographic information. Two sets of repeated-measure analyses of covariance (ANCOVAs) were

conducted to control the effects of prior individual differences. Demographic characteristics counted as covariate variables, and time was kept as the within subject factor.

QUALITATIVE DATA COLLECTION AND ANALYSIS

In the second phase of the study, we used focus groups to understand various stakeholder perspectives and to gain insights around unclear language, factors, and concepts (Krueger & Casey, 2015). Conducting focus groups allowed us to gather large amounts of qualitative data during one- to two-hour sessions (Wilson, 2012). Sharing a common characteristic or profile, each focus group represented participants who had the experience of engaging in an inquiry course, built on participant ideas, and provided clarity about the student experience with inquiry-based learning. Additionally, in the first two cohorts, few had completed the pre- and post-course measures (Table 1). Following completion of the course, we requested the use of students' reflective papers to compare with the focus group data analysis. Eight students (out of eight) in cohort one and 12 students (out of 26) in cohort two agreed to the use of their final reflection papers as data.

Study participants who completed the pre- and post-course surveys were invited through email to participate in a focus group following the completion of their course. Interested participants contacted the research assistant directly and signed an informed consent to participate. Participants from focus groups one, two, three, and six occurred in person, while participants from focus groups four and five engaged in the session either in person or via Skype. (Table 1 shows the number of focus group participants by cohort.)

The six focus group interviews were facilitated by the research assistants and researchers to help explain the results of the quantitative data. The seventh cohort did not participate in the focus group given the low course enrollment. Using a semi-structured interview guide, the focus groups allowed exploration of participants' understandings of inquiry-based learning and student engagement in social work education.

Focus groups were audio recorded and transcribed verbatim by research assistants. Thematic analysis was utilized for data analysis (Braun & Clarke, 2006). Drawing on the framework of Braun and Clarke (2006), the research team members utilized an inductive approach and became familiar with the data by reading and rereading the focus group transcripts and coding line by line. An additional layer of analysis was added as codes were organized into categories. The data was captured on a table with columns for raw data, codes, categories, and themes to help with organization of the data and ease of review. A research assistant and researcher independently coded the raw data from each of the first three focus groups and reviewed each other's work for consistency. The codes were then collected into categories to represent the meaning of the codes and compared for consistency. Together, the research team created themes from the categories. These themes were compared within and across cases independently by two research assistants, reviewing the transcripts from each focus group and recording on a table the raw data (comments) that represented the themes. One research assistant and the study's principal investigator reviewed the reflective papers from cohorts one and two, mining for the focus-group-emergent themes to ensure a good fit. The remaining three focus group transcripts were mined by two research assistants for comments that represent the themes to ensure consistency and trustworthiness of the qualitative data analysis. Multiple meetings with team members allow opportunity for review of the analysis process from raw data to codes, categories, and themes. Further reduction of

themes can be observed in sub-themes. We created a description of the themes through sub-themes and quotations from participant comments. The research team sought to capture rich patterned responses within and among the six focus groups that illuminated key aspects of the research question at each phase of the study.

QUANTITATIVE RESULTS

Table 2 illustrates participant demographic data. At the time of the study, the majority of study participants were undergraduates (62 percent), and 87 percent of participants identified as female. One-third (33 percent) were between the ages of 20 and 25, one third (33 percent) were between the ages of 26 and 35, while approximately one quarter of participants were over 36 years of age. The majority of participants (67 percent) report academic performance (GPA) average score of A-.

Table 2: Demographic information of the student (N = 52)

		<i>n</i>	%
Current level of education	Bachelor	32	61.54
	Master	17	32.69
	Doctoral	2	3.85
	Missing	1	1.92
Gender	Male	5	9.62
	Female	45	86.54
	Prefer not to respond	2	3.85
Number of course(s) taken in the social work program	2 or less	20	38.46
	3	16	30.77
	4 or above	16	30.77
Age	36+	13	25.00
	26-35	17	32.69
	20-25	17	32.69
	Missing	5	9.62
Average grade (GPA)	A	10	19.23
	A-	35	67.31
	B+ or below	6	11.54
	Missing	1	1.92

To examine the changes of higher-order learning as well as reflective and integrative learning before and after the courses, two separate repeated measure ANCOVAs were conducted. For higher-order learning, the result show that an overall main effect for time was significant, Wilks' Lambda = .88, $F(1, 41) = 5.92, p < .05$, partial eta squared = .12 indicated an increase in higher-order learning among students after participating the inquiry-based learning courses, regardless of their levels of education and gender. Similarly, there was a significant increase in students' reflective and integrative learning after participating the inquiry-based learning courses, Wilks' Lambda = .79, $F(1, 41) = 11.21, p < .01$, partial eta squared = .22 (Table 3).

Table 3: Results from two repeated measures ANCOVA (N = 52)

	<i>M</i>	<i>SD</i>	Wilks' λ	<i>F</i>	<i>p</i>	Partial η^2
Higher-order learning			.88	5.92	.02	.12
Pre-test	2.88	.62				
Post-test	3.11	.64				
Reflective and integrative learning			.79	11.21	.00	.22
Pre-test	3.25	.53				
Post-test	3.38	.49				

QUALITATIVE FINDINGS

As noted, we conducted six focus groups (n=19) of one to one and a half hours each. Participants were asked to reflect on their experience with inquiry-based learning and to respond to specific questions flowing from the pre/post survey results. Four themes emerged from the data analysis: (1) experience of inquiry-based learning, (2) adjustments required for learning process, (3) impactful facilitation to learning, and (4) developing deep learning. Each of these themes is described below utilizing sub-themes and quotations from participant comments to illuminate the student experience. Participant quotes are identified by level of program and length of course.

Theme one: Experience of inquiry-based learning

This theme represents the ways in which participants experienced inquiry-based learning as a pedagogy. Five sub-themes described the student experience: (1) a new kind of learning, (2) increased awareness of learning, (3) freedom in learning, (4) honoring uniqueness of students, and (5) instructor in the trenches. Each sub-theme below is represented by participant comments.

Participants indicated that inquiry-based learning was *a new kind of learning*, inspiring them differently than they had experienced in traditional education, as noted by this participant: "I really kept pushing myself to jump out of the box of what I would normally do" (MSW, 1 week). Their experience with inquiry-based learning provided an *increased awareness of learning* such that participants reported being more conscious of their learning as they pursued answers to their inquiry question outside of the classroom gathering information, as described by another student: "I noticed my awareness changed so much as we would go from different physical locations. My understanding of the situations just broadened how I view things" (BSW, 2 weeks). Another participant described increased awareness of learning while paying attention to the process of learning:

We are so used to being given a direction rather than having the foundation as to how to learn or how to process information, and so for me I really like processing things and understanding how did we get from A to B? (MSW, 6 weeks)

This greater awareness helped students to understand their agency, in that they had control over their learning, which they experienced and described as *freedom in learning*:

I also liked the freedom that came with doing something on your own. I was in charge of my learning so this is how I wanted it to be and this is where I was going with it . . . So that was definitely different, as the others have said. (BSW, 2 weeks)

The freedom that participants described and experienced in their learning was exciting and validating in their own knowledge and learning process. Participants noted, for example, that this teaching approach allowed for *honoring uniqueness of each learner* as they described how inquiry-based learning “enabled me to know that my ideas are good ideas. They’re unique. So, it’s building on who you are, it’s not making you like everybody else” (MSW, 2 weeks).

Evident to participants were the ways in which inquiry-based learning was a different way of learning as they found themselves leading their own learning process, supported by the instructor rather than being led through the process by the instructor. The instructor was helping to support student learning, observed by participants as *instructor being in the trenches* with them. This aspect of inquiry-based learning appeared to be appreciated by participants in the study, as they experienced greater support in their learning journey, noted in the following comment:

One of the beautiful pieces of IBL is that the professor is in the trenches with us doing the learning with us and reflecting questions back to us when we are asking question. Instead of being the knowledge keeper they are being a knowledge translator. They are in the process with us, so I really felt like we were all moving through the process like maybe different places on the continuum but we were all moving through it together, and they weren’t sort of standing on the pool deck directing us, the instructor is in the pool with us. (BSW, 13 weeks).

Theme two: Adjustments required for learning process

Participants reveal that inquiry-based learning can overload their system in a number of ways as they adjusted to a different (independent and collaborative) way of learning. Five sub-themes defined this theme: (1) varied learning preferences; (2) hard work, more effort; (3) taking control of learning; (4) reflection time needed; and (5) preplanning.

Participants spoke about their adjustment to this new learning pedagogy. Whereas traditional learning environments allow students to be less engaged in the “lesson being taught” by the instructor, inquiry-based learning encourages greater student engagement than students might have experienced previously. Participants identified *varied learning preferences* to support their individual learning needs, as expressed by this participant:

I found I had to be a bit present in terms of incorporating the information and thinking about it as we were sort of talking about it because there was a lot – the conversations were very rich. They weren’t surface conversations. (MSW, 2 weeks)

Some spoke of learning challenges they brought into the traditional classroom and the adjustments required of them in an inquiry-based approach to learning. For example, one student noted that “with my reading disability, I didn’t have the format that I needed. I had to figure out a technique to work” (BSW, 2 weeks).

Adjustments noted by participants included an acknowledgment of the degree of difficulty that can be experienced by students utilizing inquiry-based learning for the first time. They observed it to be *hard work*, requiring that they put *more effort* into their learning, a common response reflecting their comfort with a more traditional learning style in which they are receivers of knowledge. They suggested that the experiential nature of inquiry required them to find information by doing. In the following comment, a participant reflects on the additional effort made to help answer their inquiry question:

You definitely have to put in a lot more effort in IBL because it's not something that you can learn just from a literature review. You actually have to go out there and talk to people who have experience and you need to make those relationships, those connections to be able to get information regarding your inquiry question. It's just really you have to put more effort. (MSW, 6 weeks)

Another participant suggested that additional effort was necessary when utilizing inquiry-based learning because students lead their own learning process. Leading their own learning proved to be a motivational factor for participants, despite also requiring the adjustment to their former way of learning: "I also discovered it was a lot of work. IBL motivated me to work harder. I found it a lot of work to lead my own learning" (BSW, 2 weeks).

Inquiry-based learning offers choice, and with that choice, students discover their responsibility for their learning. Participants shared that having control of their learning was an uncommon experience for them. One participant expressed *taking control of learning* in this way:

I think most of us, wherever your education was from, there's this conventional way of teaching. And some of us sometimes might have been frustrated with the process because we feel like we need to be led and we're not used to having that control. (BSW, 13 weeks)

Having control of their learning meant that students spent more time reflecting on what they wanted to know and the discovery process to answer their inquiry question. Participants shared that *reflection time is needed*. For example, in this comment, a participant shares how reflective practice was a necessary part of inquiry-based learning:

I had to be more thoughtful in term of relating the information to my own self as a supportive student and also my practice as a social worker in the professional world. So, part of it was being a bit more self-reflexive. (MSW, 1 week)

Participants began to realize that inquiry-based learning requires an understanding of a learning process. Although participants were given introductory resources that provided an overview of inquiry-based learning, not everyone took time to understand the approach prior to the beginning of the course. Participants said engaging in *preplanning* would have provided them an opportunity for greater clarity and direction early on in the course. The comment from a student who participated in a group study program expresses a common sentiment among participants:

I think it would have been helpful before going on the trip if I had understood more about the concept of IBL . . . it was something that was entirely new and in retrospect I should have done my own research about IBL. (BSW, 2 weeks)

Having made the required adjustments for their learning process, participants identified some factors inherent in inquiry-based learning. Participants said that they believed the facilitators to learning described below were impactful to their learning.

Theme three: Impactful facilitators to learning

As participants described components of inquiry-based learning most helpful to their learning experience, six sub-themes emerged: (1) experiential learning, (2) intentional learning, (3) guided inquiry and supportive process, (4) real-world experience, (5) valuable peer support, and (6) addressing power imbalance.

The *experiential* and *intentional* nature of their learning appeared to resonate with participants. Inquiry-based learning as a process was experiential as they pursued their inquiry through multiple sources, including speaking directly with people positioned to support their discovery. One student discussed pursuing inquiry and researching answers:

I felt confident when listening to people explain their experiences, to realize that . . . I can be part of that as a contributor. I never would have pictured that I'd be interested in research but when you actually walk through it and see this is actually what research looks like, it just connects so differently. (BSW, 13 weeks).

Another participant understood the experiential learning component of inquiry-based learning in this way: "I think that it's not just someone talking at me as well. I'm learning through talking to someone and I'm responding. And I'll remember that far more than the articles that I read at the beginning of the course" (MSW, 2 weeks). Along with the experiential nature, participants identified the *intentional learning* as a facilitative factor of inquiry-based learning for their learning. They observed their inquiries to be purposeful, meaningful, and intentional, as noted by this participant:

I think it is the intention. This is what I want to learn and making sure I get the answers. If there are no answers then looking for more questions . . . It's more, what's your intention, what do you hope to get from this process? Knowing there is a focus. Rather than just being in class because you have to be in class. (BSW, 13 weeks).

Because the learning was intentional, participants said, they were more focused and clear about what they needed or wanted to learn. Yet this was not always enough to help them to know how to go about gaining the information they were seeking. An important facilitator to their learning was identified as *guided inquiry, supportive process* in their inquiry:

During our group discussion we didn't talk about the knowledge but we talked about process, and we shared advice and our strategies. So, on the fourth day . . . I needed feedback to continue. So, I

was really looking forward to discussing this with my classmates. It just gave me the direction, where to go. (MSW, 1 week).

Within what they described as a supportive process, participants asserted that inquiry-based learning allowed them *real-world experiences*. Beyond the experiential and intentional nature of inquiry-based learning, participants enjoyed engaging in real-world experience, going into community, and speaking to knowledge keepers helped them to gain a greater understanding and deeper level of meaning in their learning experience, as one participant observed: “Because you’re talking to people that are living it and you’re seeing in their expressions what they describe . . . Instead of it being a theoretical conversation, you’re seeing what that looks like on a day-to-day for people.” (MSW, 2 weeks) Real-world experience is highlighted by another participant, who called it “one of the bigger impacts for me. The actual experience of having the classroom knowledge and going to see it in real life” (BSW, 2 weeks).

Supporting participants making sense of their learnings, there were opportunities for dialogue understood as *valuable peer support*. Students tried out their new knowledge, asked further questions, and clarified their thinking with peers. Participants appeared to gain confidence in their abilities through their interactions with others:

It was that ability to problem solve with my peers, my ability to bounce questions off of them. My ability to hear their interpretation of things, looking at our language, feeling my frustration but also feeling the pride when we figured stuff out. That whole process of being together as a team and having that opportunity to have conversations with them about the learning process. (MSW, 1 week)

As participants gained confidence in the process of inquiry-based learning and their ability to find success in their learning journey, they discovered a shift in their prior taken-for-granted learning strategies, moving from recipients of knowledge (from instructor) to a greater interdependence with peers. As this participant’s comment illustrates, *valuable peer support* includes a shift in attitude toward who has knowledge and how learning occurs:

Group support was the biggest guidance to my learning. We had a great deal of advice and guidance from the instructor as well but the biggest difference between instructor and peer support is that we’re in the same boat, we are sharing the same challenge, we can actually share those strategies and that was the biggest guidance for me. (MSW, 6 weeks)

Attention to power relations appeared essential for students’ ownership of their learning. Once they gained an appreciation their own capacities and the capacities of their peers, they were able to view the student/instructor relationship in another way. This newly defined relationship was understood by participants as *addressing power imbalance*. Students shifted their understanding of knowledge, power relations, and knowledge creation, as this participant explains:

The strategy of placing us with our peers also takes away that sort of imbalance of power . . . that typical person as expert because you're the prof, you are the expert, so the role of the peer support is really strategic in terms of breaking that down. (BSW, 13 weeks)

Inquiry-based learning reduced the hierarchy typically evident in traditional classrooms when students were placed at the center of their learning, and provided support through peers and instructor. The traditional power lines were blurred as this participant clearly articulated their experience of shared power with inquiry-based learning. For example, this participant describes a more horizontal relationship with the instructor as the knowledge generator and knowledge keeper were meshed:

When I hear shared power, I think that describes really well the experience we had, or I had. Usually in the typical classroom it's very clear who is the knowledge provider and the knowledge receiver, however, in our, in my experience with this inquiry-based learning, it wasn't clear who was providing knowledge and who was receiving knowledge, it was more so that everybody was knowledge developer. (MSW 2 weeks)

Theme four: Developing deep learning

Participants shared the ways in which they pursued their inquiry question, revealing a deep learning process, represented by five sub-themes: (1) making linkages into the everyday, (2) multiple sources, (3) broadening the learning environment, (4) sparking curiosity, and (5) learning together.

Participants sought out new knowledge through multiple ways of knowing by linking course work, research, and experiential learning to the everyday. Student learning extended beyond the traditional classroom and traditional pedagogy as they explored their area of interest, *making linkages into the everyday*. At the same time, participants said, the experience of inquiry-based learning helped them make connections between theory and practice:

I found that it really helped me to delve deeper into how I can apply it to real life circumstances. It really gave me an opportunity to think about how I have been doing my social work practice and how to move forward. (MSW, 2 weeks)

For others, this deeper learning was reflected when participants discussed the ongoing utility of inquiry-based learning after their participation in the course. They noted that they carried these new linkages forward into subsequent non-inquiry-based learning courses:

I've noticed it when I've been listening to instructors in different classes. I've seen a lot of the connection that I probably wouldn't have heard before. Um, a lot of connections and I don't think I would have noticed or recognized them without having taken this class. (MSW, 2 weeks)

The extension of inquiry-based learning was far-reaching for students. For example, this participant similarly shared how the application of inquiry-based learning extended beyond the one course and helped with the *broadening the learning environment*: “because of inquiry-based learning, I

took what I learned and was able to extend it to other courses not just [field] practicum.” Experiencing the learning environment in a broader way supported students in going deeper in their learning, sparking curiosity, and moving them deeper into exploration, described here as *sparkling curiosity*: “I sort of knew that the outcome was to be learning at a deeper level. It felt exciting leading my own learning and I had a desire to see how far I could go. In the end I had confidence but also left with much curiosity.” (MSW, 6 weeks)

As owners of their learning, students immersed themselves as they explored their inquiry through *multiple sources*. This meant that students viewed information sources beyond peer reviewed journal articles and course textbooks: “Our minds are very constrained to this reference list. You think you need to have seven references in order to fully explore a subject. Whereas, these people are references themselves, right?” (MSW, 1 week)

Observing the learning environment as being everywhere allowed students to easily transfer knowledge across contexts as they developed greater awareness of their environment. This participant discussed multiple sources in more concrete terms, such as research, peers, professionals, and service users—sources that extended beyond traditional learning approaches and encouraged critical reflection:

Doing literature reviews, [G]oogling stuff to generate ideas, to start that thinking process for me, talking a lot to my peers. All of those things help to bring it all together. The class presentations, the presenters that came in and when we went into the community, they were a big part of how I can apply this to my critical thinking and reflection. (MSW 6 weeks)

Finally, participants experienced their learning more deeply as a result of *learning together*. Their shared learning was deeper as they invested more effort and took greater responsibility than they might in courses using traditional pedagogy, while understanding the shared learning involved ongoing reciprocal support, as expressed by this focus-group participant:

[Name of colleague] put it really well in terms of receiving and transmitting knowledge and possibly that's what makes the learning much deeper. The feeling that you have invested and you have a part in providing this knowledge. And it takes you from one space to another as a group. It's producing knowledge together; deepening the knowledge together. (MSW, 1 week)

DISCUSSION

The pre- and post-course surveys confirmed that participants in this study showed an increase in higher-order learning following their participation in the course where inquiry-based learning was the teaching and learning strategy. Additionally, the quantitative results revealed an increase in students' reflective and integrative learning. This was true across cohorts, level of program, and length of course. These results were further reinforced by the qualitative findings about the student experience with inquiry-based learning. As such, the mixed-methods design helped the research team to understand students' learning experiences and provided further explanation (qualitative data) of their level of engagement with their learning experience (Creswell & Clark, 2011), suggesting that inquiry-based learning may be a good fit for social work education in helping students to engage in their learning.

As noted, the majority of participants in this study self-reported as female with a high GPA, leaving open the question of study population and inquiry-based learning effectiveness. Despite this, we also had a smaller population (11 percent) self-reporting a GPA lower than A-, suggesting that inquiry-based learning may be helpful for students at varying levels of academic achievement. Further study with greater participant variability may help to provide greater clarity in this regard.

It was clear from the students' comments that inquiry-based learning was a new way of learning for them that required additional time, instruction, and application. Although they initially found it challenging, the students appeared to embrace and enjoy the process of their learning. In particular, they reported enjoying the freedom inherent in the approach and found that their ability to choose propelled them to engage further, as noted in theme of *freedom in learning*: "I was in charge of my learning so this is how I wanted it to be and this is where I was going with it" (BSW, 2 weeks). This very much resonated with studies by MacKinnon (2017) and Wright (2011).

Increase in students' reflective and integrative learning

Participants noted increased ability for reflection and integration of their learning with inquiry-based learning as we observed in the theme of *impactful facilitators to learning*. For example, participant comments reflected that the *experiential learning* involved in the inquiry-based process, the dialogue with others through *valuable peer support*, and the engagement with their environment, or *real-world experience*, supported their ability for reflection and integration of former and new knowledge into their practice. Participant experiences supported the theorizing of Miller-Young and Yeo (2015): learning comes from interactions with others, and during the inquiry process students construct knowledge from new and former knowledge to create new subjective realities. Participants' integration of their new understanding of learning as *intentional learning* showed their application from a recipient of knowledge to a co-creator of knowledge, going from a passive student who does not know the answer to an actively engaged student pursuing answers through continual questioning.

Increase in higher-order learning

Participants shared the ways in which inquiry-based learning helped them to engage in their learning and increased their higher-order learning noted in theme four, *developing deep learning*. For example, participant comments suggested they were *making linkages into the everyday*, meaning that they illustrated an ability to apply, synthesize, and analyze, delving deeper into their learning and seeking opportunities to apply their new knowledge to former knowledge to create new knowledge. It was clear from student comments that critical thinking skills were developing, reinforcing what has been found in grades K to 12 (Friesen & Scott, 2013; Alberta Education, 2010). This was further evidenced when a participant shared that they noticed how this new way of learning was applied across contexts as they made connections in other courses where previously they had not: for example, "I've noticed it when I've been listening to instructors in different classes. I've seen a lot of the connection that I probably wouldn't have heard before" (BSW, 13 weeks). Participants reported an awareness of an evaluative component to their learning, expressing thoughts about *learning together* and coming to understand their role in creating knowledge: "It's producing knowledge together; deepening the knowledge together" (MSW, 1 week).

Little (2010) asserts that inquiry-based learning assists in providing students greater choice in their learning and creating effective learning experiences and meaningful partnerships between students and faculty. This shift in practice adjusts the power relations between student and teacher to become shared power (Saunders-Stewart et al., 2012), positioning the student as co-researchers (Woolf, 2017) and instructors as facilitator and learner (Apedoe & Reeves, 2006; Buckner & Kim, 2014; McKinney, 2014; Yesudhas et al., 2014). Participants in our study recognized the shift in power within the instructor/student relationship, reflected in the sub-theme *instructor in the trenches*, understanding the instructor as supporting them through the process on an equal level rather than leading from a position of power: “they weren’t sort of standing on the pool deck directing us, the instructor is in the pool with us” (BSW, 13 weeks). Similarly, addressing power imbalance recognized the student experience of shared power as the environment provided opportunity for the co-creation of knowledge: “[I]t was more so that everyone was a knowledge developer” (MSW, 2 weeks).

IMPLICATIONS FOR HIGHER EDUCATION

Inquiry-based learning is a pedagogical strategy and practice that inherently encourages co-creation of knowledge and, therefore, shared power, an important component of social justice. Students are offered choice and freedom in their learning that participants reveal encourages greater engagement. The findings from our study both reinforce the students’ need and preference for the freedom and choice offered in inquiry-based learning and underscore the need for guidance, support, and clarity about this pedagogical practice so that they can engage in their learning and build confidence in their skills. A teaching and learning partnership is inherent in inquiry-based learning, as student feedback continually informs the learning process allowing for adjustments in pedagogical practices and curriculum design.

Instructors utilizing inquiry-based learning need to be strategic and intentional with course design to promote clarity about the pedagogical approach, particularly at the beginning of the course, and especially if, as it was in our institutional context, the concept of inquiry-based learning is unfamiliar to students. Additionally, students need opportunity to engage with multiple sources of knowledge producers. A built-in peer support system appears to be most beneficial in providing and receiving support, encouragement, critique, and direction to move forward. We found that gaining confidence in the inquiry-based learning process has encouraged numerous participants to continue on their inquiry journey, utilizing their new knowledge in other courses.

Attention to how faculty manage power relations is an important consideration (Ahmad et al., 2017) for curriculum design across years of a professional program, as is deliberate application of personal characteristics such as trust, respect, and informal communication (Spronken-Smith et al., 2011) to achieve shared power and empowerment in student/faculty relations (Abbot, 2017). Inquiry-based learning can be introduced in various stages of structured, guided, and open inquiry (Spronken-Smith & Walker, 2010). For example, early in professional education programs, activities that support structured inquiry can help students begin to adjust to this new way of learning while building skills and confidence. In year two, students may be ready for guided inquiry, and in later years, open inquiry, allowing for the critical thinking, deep learning, and mutual empowerment in this scaffolded process of inquiry.

It may be that social work faculty across the country are utilizing inquiry-based learning as activities in a course, as the pedagogy for the course, or across courses in social work programs. As researchers in social work education, it would be helpful to know the extent to which inquiry-based learning is being utilized in our discipline within a Canadian context. A national study of faculty across social work programs in postsecondary education could illuminate the extent to which students are introduced to inquiry-based learning and the ways in which this approach can support a social justice focus in social work education.

RECOMMENDATIONS

1. Professional programs such as social work education can explore the ways in which curriculum might include inquiry-based learning as a teaching strategy throughout the degree program to increase student engagement and partnership in their learning, and suggest the kinds of supports that are necessary to do so. Inquiry-based learning can also be utilized across all levels of professional programs, locally for on-campus courses, within the community, and for group study programs.
2. Curriculum design with inquiry-based learning needs to be intentional in the beginning stages to provide clarity of pedagogical approach through guided instruction utilizing instructor and peer support to ensure students understand the process and have support to experience success in learning. Further, opportunities for real-world experiences need to be available for student learning.
3. Curriculum design in professional programs requires consideration of the ways in which students can partner with faculty and should build in opportunities for partnerships across each year of professional programs.
4. How partnerships are created and the ways in which faculty manage power relations should be an important consideration.

ACKNOWLEDGMENTS

We thank all of the students who willingly participated in this study: We appreciate the learnings that you shared with us. We also thank the University of Calgary, Taylor institute for Teaching and Learning, for financial support for our project.

Beth Archer-Kuhn is an assistant professor in the Faculty of Social Work at the University of Calgary (CAN) and the recipient of the university's Teaching Scholars Award.

Yeonjung Lee is an associate professor in the Faculty of Social Work at the University of Calgary (CAN).

Savannah Finnessey, a social worker at North York General Hospital, is a graduate student in the Faculty of Social Work at the University of Calgary (CAN).

Jacky Liu is a graduate student in the Faculty of Social Work at the University of Calgary (CAN).

REFERENCES

- Abbot, S. (2017). Review of *Teaching to transgress: Education as the practice of freedom*. *International Journal for Students as Partners*, 1(2). <https://doi.org/10.15173/ijpsap.v1i2.3230>
- Aditomo, A., Goodyear, P., Bliuc, A-M., & Ellis, R. A. (2013). Inquiry-based learning in higher education: Principal forms, educational objectives, and disciplinary variations. *Studies in Higher Education*, 38(9), 1239-1258. <https://doi.org/10.1080/03075079.2011.616584>
- Ahmad, A., Ali, A., VanMaaren, J., Barrington, J., Merritt, O., & Ansilio, K. (2017). Partnership In practice: Implementing Healey's conceptual model. *International Journal for Students as Partners*, 1(2). <https://doi.org/10.15173/ijpsap.v1i2.3197>
- Alberta Education. (2010). Inspiring education: A dialogue with Albertans. Edmonton, AB: Alberta Education. Retrieved from <https://open.alberta.ca/dataset/45370ce9-3a90-4ff2-8735-cdb760c720f0/resource/2ee2452c-81d3-414f-892f-060caf40e78e/download/4492270-2010-inspiring-education-dialogue-albertans-2010-04.pdf>
- Apedoe, X. S., & Reeves, T. C. (2006). Inquiry-based learning and digital libraries in undergraduate science education. *Journal of Science Education and Technology*, 15(5/6), 321-330. <https://doi.org/10.1007/s10956-006-9020-8>
- Archer-Kuhn, B. (2013). Structured controversy: Inquiry-based learning in place of traditional group presentations. *Teaching Innovations Projects*, 3(1), article 14. Retrieved from <https://ojs.lib.uwo.ca/index.php/tips/article/view/3645>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Braye, S., Lebacqz, M., Mann, F., & Midwinter, E. (2003). Learning social work law: An enquiry-based approach to developing knowledge and skills. *Social Work Education*, 22(5), 479-492. <https://doi.org/10.1080/0261547032000126425>
- Buckner, E., & Kim, P. (2014). Integrating technology and pedagogy for inquiry-based learning: The Stanford mobile inquiry-based learning environment (SMILE). *Prospects*, 44(1), 99-118. <https://doi.org/10.1007/s11125-013-9269-7>
- Choi, B. S., & Rhee, B. K. (2013). The influences of student engagement, institutional mission, and cooperative learning climate on the generic competency development of Korean undergraduate students. *Higher Education*, 67(1), 1-18. <https://doi.org/10.1007/s10734-013-9637-5>
- Cochran-Smith, M. & Lytle, S. L. (2001). Beyond certainty: Taking an inquiry stance on practice. In A. Lieberman and L. Miller (Eds.), *Teachers caught in the action: Professional development that matters* (pp. 45-60). New York, NY: Teachers College Press.
- Creswell, J., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.
- Dunleavy, J., & Milton, P. (2009). *What did you do in school today? Exploring the concept of student engagement and its implications for teaching and learning in Canada*. Toronto, ON: Canadian Education Association. Retrieved from <https://education.alberta.ca/media/3069762/cea-2009-wdydist-concept.pdf>
- Engel, R. J., & Schutt, R. K. (2016). *The practice of research in social work* (4th ed.). Thousand Oaks, CA: Sage.
- Friesen, S. & Scott, D. (2013). Inquiry-based learning: A review of the research literature. Paper prepared for the Alberta Ministry of Education. Retrieved from <https://galileo.org/focus-on-inquiry-lit-review.pdf>
- Freire, P. (1988). *Pedagogy of the oppressed*. New York, NY: Continuum.
- Furtak, E. M., Seidel, T., Iverson, H., & Briggs, D. C. (2012). Experimental and quasi-experimental studies of inquiry-based science teaching: A meta-analysis. *Review of Educational Research*, 82(3), 300-329. <https://doi.org/10.3102/0034654312457206>
- Healey, M. (2005). Linking research and teaching: Exploring disciplinary spaces and the role of inquiry-based learning. In Barnett, R. (Ed). *Reshaping the university: New relationships between research, scholarship and teaching* (pp 67-78). Maidenhead: McGraw-Hill/Open University Press.
- Hudspith, B., & Jenkins, H. (2001). *Teaching the art of inquiry*. Halifax, NS: Society for Teaching and Learning in Higher Education/Société pour l'avancement de la pédagogie dans l'enseignement supérieur.

- Justice, C., Rice, J., Roy, D., Hudspith, B., & Jenkins, H. (2009). Inquiry-based learning in higher education: Administrators' perspectives on integrating inquiry pedagogy into the curriculum. *Higher Education*, 58(6), 841-855. <https://doi.org/10.1007/s10734-009-9228-7>
- Justice, C., Warry, W., Cuneo, C., Inglis, S., Miller, S., Rice, J. & Sammon, S. (2002). *A grammar for inquiry: Linking goals and methods in a collaboratively taught social sciences inquiry course*. Ottawa, ON: Society for Teaching and Learning in Higher Education/Société pour l'avancement de la pédagogie dans l'enseignement supérieur. Retrieved from <https://www.stlhe.ca/wp-content/uploads/2011/06/2001-Blizzard-McMaster.pdf>
- Krueger, R. & Casey, M. A. (2015). *Focus groups: A practical guide for applied research* (5th ed.). Thousand Oaks, CA: Sage.
- Kuhlthau, C. C., Maniotes, L K., & Caspari, A. K. (2015). *Guided inquiry: Learning in the 21st century* (2nd ed.) Santa Barbara, CA: Libraries Unlimited.
- Lester, J., Leonard, J. B., & Mathias, D. (2013). Transfer student engagement: Blurring of social and academic engagement. *Community College Review*, 41(3), 202-222. <https://doi.org/10.1177/0091552113496141>
- Levy, P. (2012). Developing inquiry-guided learning in a research university in the United Kingdom. *New Directions for Teaching and Learning*, 2012(129), 15-26. <https://doi.org/10.1002/tl.20003>
- Levy, P., & Petrusis, R. (2012). How do first-year university students experience inquiry and research, and what are the implications for the practice of inquiry-based learning? *Studies in Higher Education*, 37(1), 85-101. <https://doi.org/10.1080/03075079.2010.499166>
- Little, S. (2010). *Inquiry-based learning in the social sciences: A meta-analytical study*. Sheffield: Centre for Inquiry-Based Learning in the Arts and Social Sciences, University of Sheffield. Retrieved from www.shef.ac.uk/polopoly_fs/1.122795!/file/IBL_in_SocSci-FINAL.pdf
- MacKinnon, S. L. (2017). "The curiosity project": Re-igniting the desire to inquire through intrinsically-motivated learning and mentorship. *Journal of Transformative Learning*, 4(1), 4-21.
- McKinney, P. (2014). Information literacy and inquiry-based learning: Evaluation of a five-year programme of curriculum development. *Journal of Librarianship and Information Science*, 46(2), 148-166. <https://doi.org/10.1177/0961000613477677>
- Miller-Young, J., & Yeo, M. (2015). Conceptualizing and communicating SoTL: A framework for the field. *Teaching & Learning Inquiry*, 3(2), 37-53. <https://doi.org/10.20343/teachlearningqu.3.2.37>
- Plowright, D., & Watkins, M. (2004). There are no problems to be solved, only inquiries to be made, in social work education. *Innovations in Education and Teaching International*, 41(2), 185-206. <https://doi.org/10.1080/1470329042000208701>
- Pulliam, R. M. (2017). Practical application of critical race theory: A social justice course design. *Journal of Social Work Education*, 53(3), 414-423. <https://doi.org/10.1080/10437797.2016.1275896>
- Roy, D., Kustra, E., Borin, P. (2003). What is a "good" inquiry question? McMaster University, CLL resources. Retrieved from http://cll.mcmaster.ca/resources/misc/good_inquiry_question.html
- Saunders-Stewart, K. S., Gyles, P. D. T., & Shore, B. M. (2012). Student outcomes in inquiry instruction: A literature-derived inventory. *Journal of Advanced Academics*, 23(1), 5-31. <https://doi.org/10.1177/1932202X11429860>
- Spronken-Smith, R., & Walker, R. (2010). Can inquiry-based learning strengthen the links between teaching and disciplinary research? *Studies in Higher Education*, 35(6), 723-740. <https://doi.org/10.1080/03075070903315502>
- Spronken-Smith, R., Walker, R., Batchelor, J., O'Steen, B., & Angelo, T. (2011). Enablers and constraints to the use of inquiry-based learning in undergraduate education. *Teaching in Higher Education*, 16(1), 15-28. <https://doi.org/10.1080/13562517.2010.507300>
- Taylor, L., & Parsons, J. (2011). Improving student engagement. *Current Issues in Education*, 14(1). Retrieved from <https://cie.asu.edu/ojs/index.php/cieatasu/article/view/745>
- Wilson, V. (2012). Research methods: Focus groups. *Evidence Based Library and Information Practice*, 7(1), 129-131. <https://doi.org/10.18438/B8K32T>
- Woolf, J. (2017). An analytical autoethnographical account of using inquiry-based learning in a graduate research methods course. *Canadian Journal for the Scholarship of Teaching and Learning/ La revue canadienne sur*

l'avancement des connaissances en enseignement et en apprentissage, 8(1), article 5.

<https://doi.org/10.5206/cjsotl-rcacea.2017.1.5>

Wright, G. (2011). Student-centered learning in higher education. *International Journal of Teaching and Learning in Higher Education*, 23(1), 92-97. Retrieved from [http://www.isetl.org/jtlhe/pdf/IJTLHE23\(1\).pdf](http://www.isetl.org/jtlhe/pdf/IJTLHE23(1).pdf)

Yesudhas, R., Lalit, P., Josy, A., & Impana, S. (2014). Water and sanitation in Mumbai's slums: Education through inquiry-based learning in social work. *Qualitative Report*, 19 (45), 1-10. Retrieved from

<https://nsuworks.nova.edu/tqr/vol19/iss45/1>

Zorn, I., & Seelmeyer, U. (2017). Inquiry-based learning about technologies in social work education. *Journal of Technology in Human Services*, 35(1), 49-62. <https://doi.org/10.1080/15228835.2017.1277913>



Copyright for the content of articles published in *Teaching & Learning Inquiry* resides with the authors, and copyright for the publication layout resides with the journal. These copyright holders have agreed that this article should be available on open access under a Creative Commons Attribution License 4.0 International (<https://creativecommons.org/licenses/by-nc/4.0/>). The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited, and to cite *Teaching & Learning Inquiry* as the original place of publication. Readers are free to share these materials—as long as appropriate credit is given, a link to the license is provided, and any changes are indicated.