IMPLICATIONS OF AN EXPERIENTIAL FOOD AND ENVIRONMENT-RELATED COURSE FOR CHINESE AND OTHER INTERNATIONAL STUDENTS

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ABSTRACT

This project focuses on the short and long-term impacts of an experiential travel course, 'Living Rural Communities and Environments', that has been delivered through the University of Manitoba in the nearby rural community of Clearwater since 2006. The course is tremendously popular and about half of the students who have taken the course are international students, most of these from China. The goal of this research was to explore the implications of experiential education and community service-learning for international and especially Chinese students. In addition, how and what degree at attitude and behaviors for such students were affected by this intensive experiential learning course was explored. The methods involved focus group interviews with students who took the course in 2017 and 2018, interviews with community instructors, and an online survey consisting of Likert scale, multiple choice and open-ended questions that was distributed to all international students who have taken the course since 2006. Experiential education was found to be a highly effective method of conveying knowledge to and engaging students with the course material. The course had longstanding impacts on student attitudes and behaviours including the knowledge of food systems, consumption or local and organic foods, and attitudes and awareness of the inequity faced by Indigenous people in Canada. The influence of experiential learning on Chinese students was especially profound because of the effective absence of outdoor and experiential learning experiences in China. This research helped us better understand the unique experiences of Chinese and other international students in this travel course in comparison to other university courses that have been taken. It also helped maintain and strengthen contacts between these past international students and other students as well as with instructors and community members.

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1. INTRODUCTION

Experience-based or experiential learning is a way of learning that based on real-life experiences. Under these circumstances, students shift learning approaches from those focusing on textbooks and the classroom into new contexts. The benefits of classroom-based learning are different from those related to experiential learning that takes place in active, real-world and applied environments (Chan, 2012a). Many studies have shown the experiential learning is an important strategy to improve educational quality and to provide meaningful experiences for students in environmental sciences and studies (Coker, Heiser, Taylor, & Book, 2017; Tarabuła-Fiertak, Gajuś-Lankamer, & Wójcik, 2004). These have direct benefits for students when it comes to understanding and insight regarding the environment: "*learning experiences in the natural environment are extremely important in developing students' environmental knowledge, attitudes and responsible actions*" (Ballantyne & Paker, 2009, p. 243). But such approaches to learning also can contribute to added skill development and ultimately to employment opportunities

> "*With the increasing demands from employers looking for competent graduates, the experience gained from an experiential learning project can improve students' career prospects upon graduation, develops their social and human relations skills in the workplace and provides opportunities for students to put their graduate attributes into practice*"
>
> (Beard, Quinn & Shurville, 2009, as cited in Chan, 2012a, p. 406).

Many studies have found that taking part in such experiential education projects facilitates student learning through a cycle of experiencing, reflecting, thinking and acting (Kolb & Kolb, 2005). Concrete experiences provide the ground for reflective observation, and it is formed to abstract concepts, which represent as a basis for the implications of the practice (Kolb & Kolb, 2005).

Many studies have thus shown that experiential learning is an important strategy to improve the quality of education and to facilitate real-world experiences of students (Gu, Schweisfurth, & Day, 2010; Sibthorp et al., 2015). Experiential learning is a highly effective method of engaging students; indeed, students often link their own experiences with nature and use their own hands and eyes when engaging, which creates strong relations between the environment and response; encourages action in real life; and facilitates the generation of creative ideas, as well as social awareness and interest in broader environmental and social issues (Arnon, Orion, & Carmi, 2015; Stern, Powell, & Hill, 2014).

Experiential learning provides a more comfortable environment for the interaction of instructors and students, making it easier for students to relax in the field and to let students experience these personally, which provides students with a better and more open-ended and engaged learning environment and to help navigate any barriers to learning (May, 2000; Paradis & Dexter 2007). Students also develop relationships with the information and with one another through group or community-based projects, in ways that promote learning and real-life application.

International students, especially Chinese students, often lack experiential education in primary and secondary schools (Li & Chen, 2014). Although field experiences in adolescence and the college years may not be necessary, there is no doubt that experiences in outdoor can play an important role in experiential education, especially for the international students who likely lack such experiences if they were raised in urban settings (Li & Chen, 2014; Wang, Wu, & Wu, 2013). Indeed, many Chinese schools lack environment education and outdoor recreation experiences (Xue, Hong, Zhang, Xu, & Shen, 2006). On the other hand, Western educators, both experiential and conventional, often lack knowledge of other existing cultural and academic paradigms and teaching methods, which limits the development of new methods of intercultural teaching across the world (Ryan, 2011).

With respect to the attitude of international students and, more particularly, Chinese

students, the effect from natural experiences at the elementary and high school levels is less critical than field experiences at the college years and environmental performance development (Li & Chen, 2014). It is likely that the influence of experiential learning on Chinese students is more profound because of the effective absence of outdoor and experiential learning experiences in China.

'Living Rural Communities and Environments' is an experiential university course that has been delivered through the University of Manitoba in the nearby rural community of Clearwater since 2006. Each year, 25 to 40 students from a wide number of disciplines take this 10-day intensive course every August, and Dr. Stephane McLachlan teaches the course with cooperation from local farmers, Indigenous Elders, traditional food specialists and community members. Students go to numerous farms and a neighbouring First Nation community for a closer encounter with their food system and a comparative look at diverse methods to agriculture and food. And also provide unique insights into the challenges facing and aspirations of rural Indigenous communities like Swan Lake First Nation. The experience of immersion in a town allows students to establish relationships with community members.

The course blends lectures and trips to the field with community projects that have significant implications for Clearwater, Swan Lake First Nation and the Harvest Moon Society. Evening classes provide plenty of events for learning new skills like canning and bread-making with residents of Clearwater. Students learn about the challenges for farmers and both rural and Indigenous communities in Canada, about sustainable food systems, and their role as consumers or "eaters" in supporting farmers and sustainable and healthy food. An important section of the course involves community projects. For example, students mend fences of the chicken coop, paint the stands at the local baseball diamonds, and help coordinate community events. The intensive 10-day course provides opportunities to students to explore these rural communities, and to discover the relationships among food systems, rural and Indigenous culture, and the environment.

From 2010 to 2019, the number of international students in Canada's higher education sector increased by 119% (CBIE, 2018). International students have also come to have a crucial function in the lifeblood of the University of Manitoba. The total number of international students enrolled in the university has increased substantially in recent years (Fig 1). Although the numbers of Chinese students enrolled at this university has actually declined since 2015, they still represent about 5% of all university students and about 30% of all international students enrolled there (University of Manitoba Office of Institutional Analysis, n.d.).

However, there was a rapid growth in the number of students registered in the Clearwater travel course after 2013 and about half of the students each year were international students, most of whom are from China (Fig 2). The great majority of these students were raised in cities and have had little opportunity to visit rural areas or to reflect on the role of food in their lives. In this unique learning community, students from all around the world join together to learn.

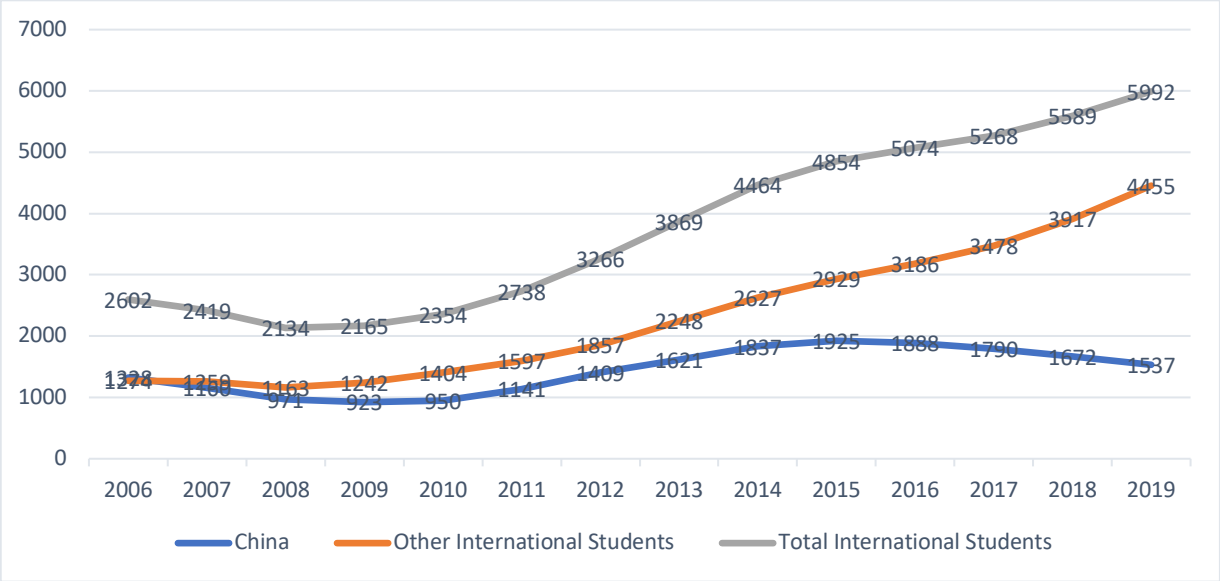


Figure 1. International students enrolled at the University of Manitoba from 2006 to 2019

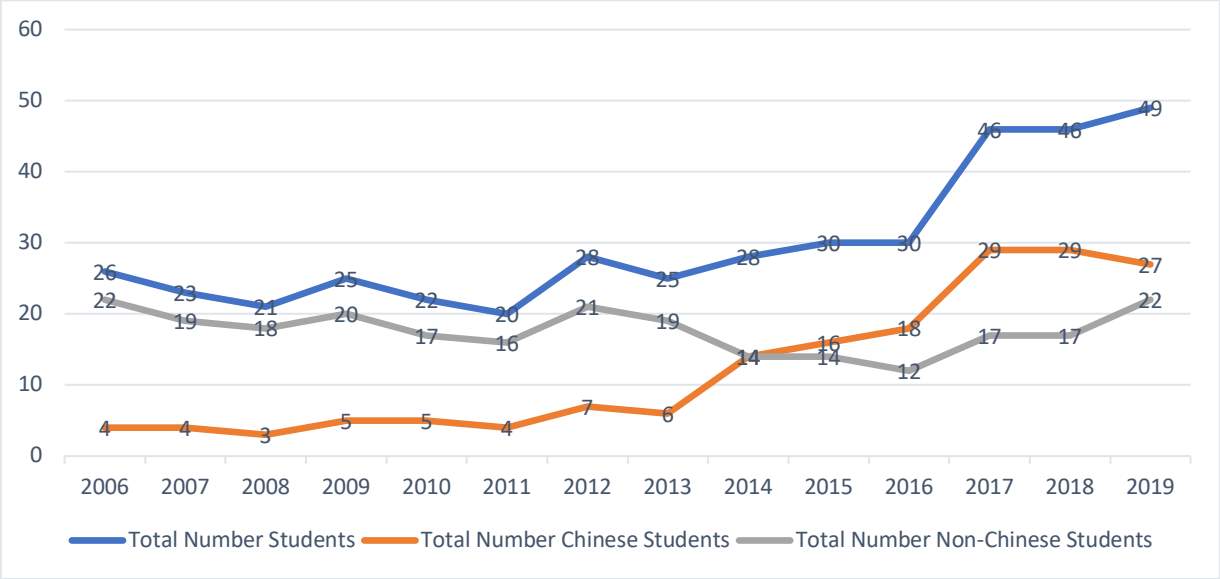


Figure 2. Students registered in the Clearwater course from 2006-2019

The goal of my research is to explore the implications of experiential education and community service-learning for international students, especially for those from China. In addition, to explore how and what degree at attitude and behaviors for these students are affected by an intensive experiential learning course. This work was facilitated by my own experiences as an international student from China, my past participation in the same course, as well as my fluency in Mandarin. For the purpose of sharing the knowledge gathered through this research to participants, the Clearwater community, and the academic community, I chose to format the results into stand-alone chapters. Thus, Chapter Four and Chapter Five in this thesis are formatted as self-contained papers, and each includes its own introduction, data results, discussion and implications. There is also an overall thesis literature review in the following Chapter Two an overall thesis methodology and methods in Chapter Three and an overall thesis discussion and conclusions in Chapter Six.

2. THESIS LITERATURE REVIEW

2.1 Post-Secondary Education

The role of the university in society can be defined in the following way: “Universities educate most of the people who develop and manage society's institutions. For this reason, universities bear profound responsibilities to increase the awareness, knowledge, technologies, and tools to create an environmentally sustainable future” (Report and Declaration of The Presidents Conference, 1990). It is crucial to highlight that post-secondary education includes all forms of formal educational programs in Canada, incorporating academic, vocational, technical, and continuous education given mainly by universities, colleges and institutions (The Canadian Information Centre for International Credentials, 2009). It usually culminates with a diploma, certification, academic degree and other qualifications (Government of Canada, 2017). In Canada, post-secondary education is no regulated by provincial or federal governments and is essentially autonomous (Jones, 2014).

Post-secondary education is comprised of both private and public institutions, and they can be located in rural, urban, or suburban regions (Government of Canada, 2017Over 10,000 bachelor and graduate programmes, professional degrees and certifications are provided in Canadian institutions (Council of Ministers of Education, Canada, n.d.). Country-wide education systems evolve as governments and education authorities define new goals and establish ways to address the demands of a continuously developing environment (Marshall, 2008).

In 2005 to 2006, there was a record high enrollment rate of more than 1 million students enrolled in Canadian universities (Statistics Canada, 2008). Many of these students come from other countries to pursue opportunities for post-secondary education. More than 80,000 students were at Canadian universities in 2005-06, representing 7.7% of the total number of university students enrolled. More than half were Asian students, over half of them were from China (The Canadian Information Centre for International Credentials, 2009). Post-secondary education allows students to learn numerous skills that will help their future careers. Many of these skills

and employment opportunities are linked to education regarding the environment.

2.2 Environment Education

Environmental education as well as outdoor education, adventure education and experiential education are connected together by common goals, objectives, and characteristics (Tbilisi Intergovernmental Conference on Environmental Education, 1978). Environment education aims to promote multiple and complex educational goals (Granit-Dgani, Kaplan, & Flum, 2017). Environmental education focuses on knowledge about biological and physical environment and related social and political issues, but also shows students how they can solve any environmental problems (Ballantyne & Parke, 2009). Environmental education is critical for undergraduates. Thanks to these educational experiences, they will be provided with many opportunities as related to future scientific, cultural and technical livelihoods and employment (Tarabuła-Fiertak, Gajuś-Lankamer, & Wójcik, 2004).

A large number of learning programs related to the environment hold good environmental awareness at the end of the programs (Ardoin, Bowers, Roth, & Holthuis, 2018). Environmental education programs intend to improve environmental literacy, which consists of knowledge, attitudes, arrangements, and competencies that help students recognize, evaluate, and address environmental problems effectively (Stern, Powell, & Hill, 2014). Environmental education programs also foster critical thinking and problem-solving skills and responsible decision-making that better enable graduates to mitigate environmental degradation (Ferreira, 2021).

Studies also demonstrate how opportunities for field experience in local wild regions enable students to utilize concepts to real-world implications then help them address local environmental problems (Ballantyne, Fien, & Packer, 2001; Ballantyne & Packer, 2005; Ballantyne & Uzzel, 1994). Taking action or learning by doing regarding the environment facilitates more nuanced understanding of these concepts and builds meaning that reflects regarding any underlying theories (Ely, 2018; Goralnik, Thorp, & Rickborn, 2018). Many introductory courses in environmental science combines general scientific theory with practical

application. While such courses primarily focus on studying knowledge and skills, students that undertake environmental action voluntarily, also enhance their understanding of the environment (Eppinga, de Scisciolo, & Mijts, 2019). Such engagement with local environments thus facilitates student learning and promote a future role of these students as agents of change (Ballantyne, Fien, & Packer, 2001; Ballantyne & Packer, 2005).

A study conducted in Sweden pointed out that the most significant part of learning in environment education is to develop an emotional response to the content being studied, this best achieved by enabling students to actively engage with the environment (Rickinson & Lundholm, 2008). Educators from one of Canada's largest outdoor education centers suggest that it is vital when raising environmental consciousness to create opportunities for people to become deeply involved in outdoor experiences that are real and varied in nature (Nazir & Pedretti, 2016). They also pointed out "*environmental consciousness as consciousness raising consists of three structures: connecting people to their environment; fostering care for the environment; and building agency for the environment*" (Nazir & Pedretti, 2016, p. 301).

Several studies have demonstrated that immediately after involvement in experiential environmental education programs, students' environmental concepts, attitudes, and intents have enhanced (Genc, 2014; Stern, Powell, & Hill, 2014). Stern, Powell, and Ardoin (2008) discovered notable short-term positive impacts in three and five-day residential environmental education programs; however, the relationship between students and nature diminished largely in the long run regardless of the program. That said, most studies are short-term in nature and few have examined the longer-term implications of environmental education for consciousness raising or behavioural change.

2.3 Experiential Education

Experiential learning theory was first developed by Dewey (1938), where he emphasised the importance of learning through direct experience. As a result of experiential learning, students are more likely to remember and practise what they have learned earlier into the future

(Dewey, 1938; Dart et al., 2000). Through the Kolb's (1984) learning cycle, experiential learning gives chances for students to engage in an activity, review and reflect on this activity critically, draw useful insights from the analysis, and apply any results of these activities in practical situations. By following this cycle, students will adjust their learning according to different circumstances (Kolb, 1984). In undergraduate education, experiential education has several approaches involving cognitive education (Thiry, Laursen, & Hunter, 2011), teamwork forming (Goralnik & Nelson, 2017), the improvement of practical skills and personal development (Goralnik & Nelson, 2015; Parr & Van Horn, 2006).

Experience learning usually begins with involvement in certain events, activity or contact with the environment and the community (Heinrich, Habron, Johnson, & Goralnik, 2015). Research focusing on environmentalists and their education experiences found that "*most significant school memories featured opportunities to take action, rather than passive classroom learning*" (Chawla, 1999, p. 21). Participating in outdoor adventure education facilitates participants to change their perspectives as learning becomes fun and recognizes the best approaches to learning enables participants to become actively involved in the learning process (Sibthorp et al., 2015). Based on the concrete experiences, this usually takes the form of field course or even just simple class activities (Healey & Jenkins, 2000). Students who participate in an introductory outdoor adventure course showed significantly higher learning outcomes than those who participated in indoor classroom-based courses. The adventure experience course led to higher scores by fostering increased trust among student participants, thereby leading to more in-depth personal discussions about curricular topics, which in turn improved understanding of course concepts and connections with peers (Bell & Holmes, 2011).

Experiential, group-based education programmes enable university students to have more significant learning, academic achievement, retention, social support, self-esteem, and job competencies (Cumming, Woodcock, Cooley, Holland, & Burns, 2014; Dewey, 1938). Outdoor adventure education experiences facilitate the ability of students to collaborate with others in

academic environments (Cooley, Burns, & Cumming, 2015). University students participate in groupwork on projects, study groups, seminars, written and oral assignments, workshops, and laboratory exercises. Individual abilities such as project administration, writing and spoken communication, and leadership are integrated by collaboration skills, particularly teamwork skills (Kricsfalusy, George, & Reed, 2018). Outdoor adventure program usually designed for university students to develop and facilitate reflection on groupwork skills and promote social interaction (Cooley, Burns, & Cumming, 2016). A study on the experiences of medical students showed that 83% agreed that their four-day outdoor adventure education course had helped build their teamwork competencies (Juriza et al., 2011).

"*Active learning requires more than simple activity, rather it should also encourage thinking and reaction on learning activities*" (Scheyvens et al., 2008, as cited in Bonwell & Eison, 1991, p. 51). Active learning is considered more efficient in improving problem-solving skills and for applying knowledge to new contexts than conventional lesson plans (De Freitas, 2006; Shellman, 2001; Smith & Boyer, 1996). For students to succeed in the real world, they are required to implement their knowledge to new contexts or connect these to other newly encountered situations; in addition, students are encouraged to enhance critical thinking skills, written and oral communication skills and the ability to make sense of data (Bradberry & De Maio, 2019). Making students active learners helps motivate them to understand the content and to achieve in the class. These higher levels of motivation in turn lead to better learning in quality and intensity since students utilize their knowledge carefully to make themselves decisions rather than simply receiving such knowledge passively from others (Bradberry & De Maio, 2019). Increased experiences in the field and reduced writing requirements in these courses better focus student attention and provide "just-in-time" interpretations of what is being encountered, in turn providing students with increased time and opportunities to more freely explore and make their own discoveries (Molee, Henry, Sessa, & Mckinney-Prupis, 2011). Indeed, outdoor educators may introduce diverse sustainable practices to students so that they can directly experience these

practices (Princes, 2017).

For many students, such extended field experience represents the first time that they have the opportunity to become immersed in the natural environment, and it may represent their first time to stay away from their families and friends. Those experiences, those associated with hands-on projects and opportunities to literally get in touch with nature, help them build up the real-life skills and experience, while also building self-confidence and leadership potential (Garst, Schneider, & Baker, 2001). Educators' providing student autonomy and support may also facilitate student performance (Filak & Sheldon, 2008) and impact on student self-confidence and self-efficacy, and their perceptions of their own competence and ability to accomplish goals (Vuong, Brown-Welty, & Tracz, 2010). Experiential education also contributes to the development of hand or technical work skills. It introduces young people to natural resource-based careers, especially in environmental and geological studies, whereby they would then already know how to use their technical skills when entering the workplace (Garst, Schneider, & Baker, 2001; Kolb & Kolb, 2005; McClam et al., 2008). A graduate who is well qualified to move to employment after graduation is work-ready and will be better able to satisfy their employers' expectations (Andrews & Higson, 2008; Spanjaard, Hall, & Stegemann, 2018).

Two dimensions of the experiential learning process are breadth and depth; the depth of experiential learning is vital for higher-order thinking such as cognitive skills, and the breadth of experiential learning is essential for promoting social skills such as cooperation and team work (Coker, Heiser, Taylor, & Book, 2017; Hammond & Albert, 2020). Coker, Heiser, Taylor, and Book (2017) further explained that "*overall, the ideal situation for a college student is likely to include both experiential learning depth and breadth – an approach that develops the full array of knowledge and skills that are highly advantageous for succeeding in life after college*" (p. 20).

While researchers showed that participation in experiential education programs generally has significant benefits for the short term that facilitate cognitive and emotional outcomes, follow-up or long-term measures are rarely addressed in the literature (Stern, Powell, & Ardoin,

2008). Indeed, studies that evaluate any long-term connections have declined sharply in number, and thus there is an absence of certain evidence of the continued effect of experience education (Stern, Powell, & Ardoin, 2008). Some researchers believe that the long-term impact of lifestyle choices occur after experiential learning and, indeed, after graduation. In contrast, these long-term impacts are arguably more evident in community service-learning, where students interact and learn from underlying social issues and justice in both the short and long-term (Genc, 2014). Garst, Schneider and Baker (2001) examined the impacts of a three-day outdoor adventure program on students and indicated that social acceptance and behaviour improved after the program immediately, that behaviour changes continued four months after the program, but the influence of the experience learning keep decreasing in the long term. In other words, the long-term effects of experiential education are missing; however, the authors still indicated that changes in self-perception were largely associated with the freshness of the program experience and its continuance.

Therefore, experiential learning gives students opportunities to connect academic knowledge to real-world concerns, gives students work opportunities that cut across disciplinary lines, and increase understanding of diverse community backgrounds and frameworks (Del Baldo & Baldarelli, 2017). Experiential learning would help students develop career goals and enhance soft-skills such as critical thinking, problem-solving skills, communication, teamwork, leadership and activation of cognitive knowledge (Thiry, Laursen, & Hunter, 2011), personal development (Goralnik & Nelson, 2017), and applied technical expertise (Parr & Horn, 2006).

2.4 Community Service-Learning

Service-learning is a type of experiential education but is more focused on hands-on learning and real-life settings to solve social issues (Pedersen, Meyer, & Hargrave, 2015). In higher education, service-learning, along with other experiential learning approaches, provide opportunities for improving student growth and learning (Kiely, 2005). Research in a graduate community service-learning program demonstrated that students' interpersonal and technical

skills improved considerably, and that they affected the direction of applied projects through broad and more enduring interactions with community partners (Lu & Lambright, 2010). Service-learning programs should apply theoretical models to improve the outcomes arising from service-learning experiences (Holsapple, 2012). Such learning usually involves outdoor community service activities related to academic knowledge and theories but is distinct from other experiential learning programs as it emphasizes social needs and the advancement of social transformation, especially as related to student learning and personal growth (Butin, 2005; Moore, 2010).

Grosby (1995) points out that Dewey thought that the purpose of education back in the early 1900s was to ground these experiences in real life application and social concerns, and this was and still is remained when students learned the critical thinking skills to explore and to make sense of their own experiences. Therefore, a key-point of education for students was, and still is, to improve the critical thinking skills in real life. When exploring the implications of service-learning for critical thinking, Joseph et al., (2007) investigated a community service-learning project in the southeastern part of the United States. There, 150 participants were assessed using a questionnaire that focused on the impacts of participating in community service-learning projects and the implications of these experiences on student senses of community awareness and social responsibility, critical thinking skills, and even employability. Most students in the study seemed to agree that their critical thinking has been improved, and their university experience had prepared them for the labour market; in addition, the value of their community service experience became even clearer after graduation (Joseph et al., 2007).

Barriers to learning can be found in most classroom-based teaching, which is greatly reduced as the students begin to foster critical questions regarding the concepts of difference and injustice (Jakubowski, 2003). Another study focusing on social work showed that service-learning is an impressive learning method demonstrated by the feelings of students. Students demonstrated the strengths of this approach to learning expressing words like "*I really enjoyed*

this class," *"I am grateful for the learning opportunity*," "*the highlight of my semester*," "*I enjoyed the hands-on experience*," and "*the whole thing was excellent—a great experience*" (McClam et al., 2008, p. 247). Those writings reflect an increased awareness of others, reduced difficulties when it comes to learning and improved self-confidence. Self-reflection helps students better succeed in the service-learning since it encourages students to record and evaluate their experiences (Sanders, Van Oss, & McGeary, 2016). Other than verbal self-reflection as found in open-ended discussion and recorded videos, most generally use written self-reflections such as reflection journals (Lovat & Clement, 2016). Such self-reflection lets students evaluate their learning. This provides students with space to build their confidence (Lovat & Clement, 2016). Sanders, Van Oss, and McGeary (2016) contrasted pre-test to post-test insights showed that self-reflection is a powerful way for students to learn and maintain skills.

In addition to teaching students on core leadership principles, having opportunities to develop and practice such leadership competency is essential to students. Community service projects grounded in concrete experiences and active learning are designed for students interested in learning and encourage students to develop such leadership skills (Wurr & Hamilton, 2012). Community projects and service-learning activities enable students to recognize community concerns and show community and student participants alike how to build and act on solutions to such concerns while developing self-leadership. Students become more emotionally involved in their projects by better understanding and addressing community needs and by discovering opportunities that foster success, which in turn also lead to effective leadership (Zapalska, Zieser, & Kelley, 2016). Student motivations to learn are enhanced as they work on a project from beginning to end, and as they get practical experience in the process (Kenworthy-U'Ren & Peterson, 2005; Williams & Lankford, 1999). Confidence development, teamwork and collaboration skills also grow from student involvement in such community projects (Cooke & Kemeny, 2014; Hurd, Elkins, & Beggs, 2014; Olsen & Burke, 2014).

Community service-learning affects student behavior into the future, by engaging and

contributing to social and real-world matters, as well as by improving their working skills and other life skills. Students gain benefits from community service-learning, which include enhanced professional skills expected by both university and by future employers (Clinton & Thomas, 2011; McLaughlin, 2010). Some approaches go further by engaging students with disadvantaged or other equity-seeking groups, and by creating learning frameworks that simultaneously benefit both students and their host organizations. Such service-learning creates a richer and more comprehensive and applied learning experience and encourages instructors to building shared benefits for both student and community knowledge and experience.

For many universities, the presence of a community service-learning program reflects an awareness of and response to an increasing need to give students with competencies and concepts for work and more direct involvement of the community as well as active citizenship experiences (Barnett, 2007; Webb & Burgin, 2009. Research demonstrates that service-learning contributes to and complements traditional education and helps students to engage, learn, grow and establish links between universities and communities (Hou & Wilder, 2015; Hou, 2009; Hou, 2010; Lovat, & Clement, 2016). Participating in service-learning courses results in increased enrollment, higher self-efficacy, improved cultural skills, reduced student concern and attrition, and better personal development (Kohlbry, 2016; Long, 2016). Community service-learning can be seen as a mechanism to integrate foundational knowledge with practical skills (Levkoe, Friendly, & Daniere, 2020). This develops competency and enhances the potential of students to succeed at the professional level (Noske, 2018). By integrating service into existing courses allows students to develop their skills and to gain confidence in their abilities while also succeeding in their field of employment at the same time (Clinton & Thomas, 2011).

Many scholars indicated the necessity for considering community-university relationships from a community standpoint (Barrera, 2015; Bortolin, 2011; Omerikwa, 2012; Sandmann, 2008; Sandy & Holland, 2006). Although descriptions of community engagement involve creating reciprocally connections between institutions and host communities, few studies have

focused on community and university relationships and less relate to community partner experiences (Khalaf, 2017). Omerikwa (2012) sought to better understand community partner perspectives, their perceptions about reciprocity and mutuality, and their project experiences. Gerstenblatt (2014) conducted interviews with community partners to explore their experiences with service-learning and found that reviewing partnerships was critical for ongoing developments in service-learning and recognized the importance of the intended and extended engagement between university students and community members.

Thus, by participating in such learning, community members and organizations benefit directly from collaborating with post-secondary institutions. Students enhance and support community and organizations to fulfill their roles, while also instilling passion, motivation, receiving new knowledge and skills, creativity, networking, and new insights from their partners (Barrera, 2015; Gerstenblatt, 2014; Rinaldo, Davis, & Borunda, 2015; Vernon & Ward, 1999). Community members are also willing to help student improvement through informal engagement, formal instruction and real-world application (Rinaldo, Davis, & Borunda, 2015; Sandy & Holland, 2006). To have access to beneficial resources such as knowledge, financial support, university expertise and decision-makers, community members and groups often benefit from teaming up with universities (Barrera, 2015; Ferrari & Worrall, 2000; Rinaldo, Davis, & Borunda, 2015). In a field course in environment and sustainability, community partners responded positively to the entire course, stating that the experience fulfilled or exceeded their expectations. They received positive comments from students and would suggest it in future to other farms. Community members impressed by student performance and demonstrated these using words like "*Excellent group, wide range of backgrounds, also brought us information from other areas. Great!", "students were very engaged and interested in the course, the project and our farm"* (Kricsfalusy, George, & Reed, 2018, p. 606).

2.5 Rural Community and Rural Issues

Studies have found numerous issues that confront communities in rural areas. In comparison to urban areas, rural communities are smaller, have fewer facilities or social or health infrastructure; and older residents are often forced to move to distant centres to get the help they need (Cuddy & Lijun, 2007; Hanlon, Halseth, Clasby, & Pow, 2007; Hanlon & Halseth, 2005; Kay, 2011; Liu, Hader, Brossart, White, & Lewis, 2001; Winterton & Warburton, 2011a; Winterton & Warburton, 2011b). As people get older, they need more choice when it comes to accommodations, transportation, shopping facilities, and other daily services. Local governments face challenges when addressing such needs, this caused by the absence of a sufficient number of these services in small rural communities (Hodge & Gordon, 2014; Rogers, 1989).

There are also many health disparities between urban and rural areas due to many different reasons including restricted health care availability, basic infrastructure and mobility (Doogan, et al., 2018; Zhao, Ameratunga, Lee, Browne, & Exeter, 2019). Studies indicate that rural residents are at higher chances for health issues than urban residents at all stages of life (Moore, Davis, Baxter, Lewis, & Yin, 2008; Patterson, Moore, Probst, & Shinogle, 2004). Problems such as community sustainability and well-being, equity and access to facilities and services becomes of critical importance in rural regions, and these problems are only becoming more prominent in these regions as modern life and aspirations continue to change (Brown & Cromartie, 2004; Minore, Hill, Pugliese, & Gauld, 2008; Nelson et al., 2021).

Students in rural and remote areas face critical obstacles when accessing advanced education. In contrast to their urban peers, fewer rural students attain higher formal education, which puts them at a notable disadvantage (Zarifa, Seward, & Milian, 2019). In rural areas, students are less likely to attend post-secondary education and are less likely to graduate from their studies and to receive a degree (Maltzan, 2006). There are major differences when it comes to literacy and numeracy skills, and the growing disparity between urban and rural areas in

Canada has been severe regarding and technical skills and future employability (Zarifa, Seward, & Milian, 2019).

2.6 Agriculture and Food

The direct impact of "colonial legacies, corporate concentration, industrial productivism logics and neoliberal politics" has created numerous and considerable difficulties for today's agriculture and fisheries, which in turn hinder attempts to create fairer and sustainable food systems (Laforge, Dale, Levkoe, & Ahmed, 2021). From a long-term perspective, the development of Canada's agricultural systems also exploited and continue to rely on settler colonialism. Government policies facilitated obtaining farmland, and it was necessary to suppress Indigenous peoples through land grab, through the establishment and continued marginalization of these peoples on reserves (Manuel, 2017; Morrison, 2011; Rotz, 2017).

In Canada, a critical dimension for agroecology or alternative approaches to agriculture campaign involves addressing past and current injustices inside and beyond the food system, especially as related to Indigenous people. Canada's food system is founded on settler colonialism, and addressing this requires not only understanding but also confrontation when it comes to the systemic shapes of injustice implicit in the scheme, from treaty breaches to a refusal to identify and adequately reimburse Indigenous people for past (and current) misbehaviour (Laforge & McLachlan, 2018a; Laforge & McLachlan, 2018b; Rotz, 2017; Kepkiewicz, 2017). Ironically, food insecurity is rampant in rural regions, and is directly associated with high food prices and lack of choice (Garasky, Morton, & Greder, 2006).

Canadian agriculture has to some extent, at least two fascinating and slightly contradictory trends today. On one side, the local food movement is being more influential. Local and sustainably produced local products are in great demand and have been accompanied by the rise of organizations focused on local foods and agriculture-related problems, and the use of a food-based literature to explore various topics, including community welfare, sustainability learning, economic development, and civic governance (Desjardins,

MacRae, & Schumilas, 2010; Friedmann, 2007; Mendes, 2007; Rojas et al., 2011). On the other side, the fast decreasing agricultural population has brought uncertainties about the mainstream agriculture path and an increased reliance on technology, intensive inputs and mega-scale approaches to farming (Ngo & Brklacich, 2014).

Thanks to advances in technologies and techniques, enhanced normalization and distribution of food, and the globalization of markets and goods, agriculture and food have experienced a drastic transformation over the past century (Goodman & Redclift, 1991). Consumer changes to normalized demands for comfort, casualness and rapid access to foods have altered dietary preferences, family life, and consumption habits (Jaffe & Gertler, 2006; Shove, 2003). The food environment has in turned been drastically changed, which has led to an increase in the supply, diversity and plenty of prepared food products (Serecon Management Consulting Ltd., 2005). Convenience food has become the dominant pattern, where eating out and the consumption of pre-packaged and processed foods has come to dominate over home food preparation (Serecon Management Consulting Ltd., 2005). Reasons for home-based food preparation have declined include' deskilling', which has a negative implication and can be described as a substitute for home-made food by production and the shortage of ability and self-confidence in youth when it comes to food preparation (Howard & Brichta, 2013; Jaffe & Gertler, 2006). Home-based food preparation changes are caused by the standardization of processed foods (Halkier, 2017) and the greater need for simple and ready-to-eat convenience foods (Chu et al., 2013).

2.7 Alternative and Local Food System

Yet, local food networks in North America are also becoming more and more important. Under an extremely industrialized, export-oriented, and productive agriculture and food system, with exponential growth in scale, some farmers and consumers are "going local" as they move to smaller, more regional approaches to farming and food production (Beingessner & Fletcher, 2020). Consumers want to reconnect with their food and the origins of their food (Albrecht &

Smithers, 2018; Hendrickson & Heffernan, 2002). Farmers or growers are consequently often perceived as passive players in the local food system whereas consumers or eaters become the principal stakeholders. In truth, farmers' involvement in local food economies is typically viewed merely as a reaction to perception from the market caused by local food needs and their beneficial characteristics (Beingessner & Fletcher, 2020). In such an approach, it becomes necessary to understand which attributes or "attribute combinations" of the alternative food system are wanted by different consumer subgroups in order to realize the development and future of the alternative food system (Bean & Sharp, 2011).

Small, regional production distribution using processes including farmer markets and other direct-to-consumer supply mechanisms are characteristics of local food systems (Deller, Lamie, & Stickel, 2017). In order to increase the influence of local food systems, development in physical and social infrastructure is also required (Connelly, Markey, & Roseland, 2011). Cleveland, Müller, Tranovich, Mazaroli, and Hinson (2014) further emphasize that the limitations are both organizational and physical in nature: "*a major obstacle to localization is lack of economic, organizational and physical structures of the appropriate scale for moving locally grown food to local eaters*" (p. 27). Local food hubs are becoming an effective tool as they bring food products from many small farms into grocery stores, and other institutions to overcome this challenge (Cleveland, Müller, Tranovich, Mazaroli, & Hinson, 2014). Coordinating marketing roles with manufacturing, in particular, to manage the effective distribution and promotion of local foods poses the most significant difficulty for such approaches (Woods, Velandia, Holcomb, Dunning, & Bendfeldt, 2013). Farmers and food retail/business managers may gain a greater understanding of alternative food demand trends and help them decide what to grow while also helping consumers determine what to stock and how to access or prepare their foods (Bean & Sharp, 2011).

Local food system control facilitates rural communities and rural autonomy, all of which are essential to food sovereignty or the local control over food systems. Local food networks

cannot succeed if the reconstruction of rural facilities and the revitalizing of rural communities are not completed at the same time (Ayres & Bosia, 2011; Wiebe & Wipf, 2011). Alternative food systems can solve rural revitalization issues by stimulating economic growth, building bridges among still unconnected rural communities, supporting rural agricultural land use for agroecological production, and assuring that farmers have sufficient income (Anderson, McDonald, Gardiner, & McLachlan, 2014; Hart, McMichael, Milder, & Scherr, 2015; Wiebe & Wipf, 2011). Some rural communities have actively worked to becoming "food clusters" as a strategy to build a diverse economy while encouraging local food production to avoid the stagnation of other economic activities (Bowen & Mutersbaugh, 2014; Chabrol & Muchnik, 2011; Chiffoleau & Touzard, 2014; Hjalager & Richards, 2002; Muchnik, 2010). "*Most municipal/ local governments and community planners have only recently begun to view agricultural and food systems as an important engine of economic development and sought to link their economic development and assessment work to local food systems activities*" (McFadden et al., 2016, p. 4). Due to the labour-intensive practices reflected in most local production procedures, the local food system can promote local employment (Cvijanović, Ignjatijević, Vapa Tankosić, & Cvijanović, 2020). Compared with non-local approaches, local food production may thus generate jobs and have a greater spillover effect on the local economy (Shideler, Bauman, Thilmany, & Jablonski, 2018).

Although conventional agricultural and food systems have succeeded in improving overall food output, they are generally considered unsustainable (Cleveland, Carruth, & Mazaroli, 2015). Many well-documented environmental, social and economic adverse effects are associated with the conventional food system such as pesticides and synthetic nitrogen pollution in groundwater, land degradation and damage, a significant emission of greenhouse gases, and a continued high rate of food insecurity (IAASTD, 2009; Vandermeer, 2009). In particular, in the industrial world, the growing movement in the localization of food systems has become increasingly widespread as an important strategy for solving such problems and thus promoted

the visibility and value of such alternative food systems (Cleveland, Carruth, & Mazaroli, 2015). Supporters of these alternatives usually aim to change the mainstream system to achieve economic and social justice, better diets and environmentally sustainable mode of production (Kloppenburg, Hendrickson, & Stevenson, 1996).

Due to the organic foods create advantages to the environment, animal welfare and well-being, and high-quality food, consumers believe that organic food is of higher value, so that the price of these goods becomes less important (Aertsens, Verbeke, Mondelaers, & Van Huylenbroeck, 2009). Since those with more positive attitudes to organic food are far more willing to pay premiums than consumers with less positive attitudes (Bean & Sharp, 2011; Gil, Gracia, & Sánchez, 2000; Lund, Andersen, & O'Doherty Jensen, 2013). Yet, the existing literature also shows that interest in and thus the growth of both the local and organic food purchases involves altruistic motivations, including personal ethics and concerns for the environment (Bean & Sharp, 2011; Johnston, Szabo, & Rodney, 2011; MacMillan Uribe, Winham, & Wharton, 2012; Onozaka & McFadden, 2011).

2.8 Indigenous Communities and their Challenges

Today, Indigenous peoples suffer numerous health problems and disparities directly related to colonization, encroachment by dominant society and deprivation of their homelands, globalization, migration, and the erosion of both culture and language. The policies of the United States and Canada legitimize this cultural aggression; however, socioeconomic and political marginalization and racial prejudice have further aggravated this cultural attack (Gracey & King, 2009). "*Without understanding the history of relationship [between white-settlers and Indigenous people], how can Canadians make sense of current conditions?"* (Dion, 2009, p. 12).

In Canada, the wellness indicators and health care access for Indigenous peoples continue to be highly inequitable compared to other Canadians (Greenwood, de Leeuw, & Lindsay, 2018). Higher rates of infant mortality, tuberculosis, injury and death, obesity and diabetes, adolescent suicides, and vulnerability to environmental pollutants are pervasive when it comes to

Indigenous children, adolescence, and their families and communities (Greenwood & de Leeuw, 2012). The current health status of First Nations, Inuit, and Metis people represents the sum socio-economic, environmental and political backgrounds of their lives, which are inseparable from past colonialism and from an anticipated colonial future (Reading, 2015; Simpson, 2003).

Moreover, the devastating effects of residential schools on Indigenous people has continued to persist 50 years after the last of these schools was closed. The experiences of numerous victims have resulted in personal trauma and intergenerational trauma to future generations (Corntassel, Chaw-Win-Is, & T'lakwadzi, 2009; Frideres, 2011; TRC, 2015). Residential schools were established so that children could be forcefully displaced from their communities in order to better assimilate them into settler society and as part of a broader strategy that sought (and still seeks) to assimilate all Indigenous people (Alfred & Corntassel, 2005; Corntassel, Chaw-Win-Is, & T'lakwadzi, 2009; Mendelson, 2008). Children were punished for expressing themselves in their own Indigenous languages or performing cultural activities. Physical, sexual and emotional abuse were all common (Furniss, 2000; Langevin, 2012; TRC, 2015) and now as hereto unmarked graves of these children continue to be found on the former grounds of these schools in British Columbia and Saskatchewan (and ultimately the rest of Canada), the often-deadly impacts of these schools are only now becoming clear to the rest of Canadians and the world.

The numerous colonial policies and actions still contribute to generations-long inequalities. Substandard housing conditions, poverty and unemployment, inadequate formal education and inadequate access to better medical services all contribute to these disparities (Bougie, Kelly-Scott, & Arriagada, 2013; Kohen, Bougie, & Guèvremont, 2015; Statistics Canada, 2018). The numerous colonial policies and actions still contribute to generations-long inequalities. First Nations, Inuit and Métis' lives continue to be undermined by these inequalities, combined with the impact of residential schools, the loss of Indigenous territories, the weakening of political and economic self-determination, threatening policies that still take children away

from their communities, and other government policies (Greenwood & de Leeuw, 2012; Reading, 2015; Allan & Smylie, 2015).

2.9 Indigenous Food Sovereignty and Food Security

The 2010 First Nations Environmental Food Nutrition and Environment Study showed a 73% household insecurity rate in northern Manitoba (Chan et al., 2012). There is a strong relationship between Indigenous food insecurity and adverse health effects like obesity, depression, and chronic disease (Reading & Wien, 2009). First Nations communities are among the most isolated and impoverished in Canada. They are also marginalized from an economic perspective, often do not have enough food processing, food production, access to transport systems or even safe drinking water facilities, all of which aggravated food insecurity (Fieldhouse & Thompson, 2012). Underlying the health "crisis" that confronts most Indigenous peoples in this country, the important reasons include barriers to affordable and nutritious food deficiency, inadequate infrastructure, and lack of employment (Archibald & Grey, 2000). Dependence on processed and nutrient-poor foods aggravates personal risk factors for obesity and heart disease (Cummins & Macintyre, 2006).

Indigenous food sovereignty is defined as the ability of Canadian Indigenous people to re-establish the connection between the land-based food and political systems (Martens, 2015). While there are substantial cultural and socioeconomic differences among First Nation, Métis and Inuit communities across this nation, it is clear that the capitalist and settler-colonial food system has significantly undermined indigenous food sovereignty (Morrison, 2011). Indigenous perceptions of food sovereignty revolve around ways of conserving traditional food systems and protecting them from the ongoing pressures of colonization (Desmarais & Wittman, 2014; Grey & Patel, 2015), solving treaties and government policies and other issues (Martens, 2015) while energizing the traditional food system that has been sustainable for thousands of years (Shawki, 2015). The development of the term Indigenous food sovereignty reveals the different thoughts and practices surrounding the idea of food sovereignty, and some of the unique features of

Indigenous food systems that are absent from most other agricultural systems in Canada. These revolve around the long-standing connection of Indigenous people with their ancestral lands and food systems (Morrison, 2011; Morrison, 2008). Four key concepts include the importance of the sacred in Indigenous food systems; the critical role of communities in attaining sovereignty; the right of local people to determine their own food and health systems; and the importance of establishing institutions with policy reform that in turn enable the development of Indigenous food sovereignty (Morrison, 2008).

Applying food sovereignty in a general way that considers that all people's demands are the same on the land that we now call Canada is suspect as it does fails to represent the constitutional treat rights and the needs or priorities of Indigenous people (Rudolph & McLachlan, 2013). Sometimes food sovereignty practices can lead to tensions between Indigenous peoples and settlers (Kepkiewicz & Dale, 2018). Thus, for example, much of the land that is taken for granted and "possessed" by Canadians today is disputed or unceded, even as predominantly settler groups of people who work for alternative food systems that work to build social integration, democracy, food justice, and local systems while ignoring these treaty rights, which in turn increase tensions when local systems are established (Grey & Patel, 2015; Kepkiewicz & Dale, 2018). The food sovereignty and food security movements in this country are still largely led by settlers, settlers who should strive to learn the relationship between land ownership and colonization and strive to become the allies of and to learn from Indigenous peoples (Matties, 2016).

3. METHODS

3.1 Research Design and Methodology

The aim of this study was to explore the implications of an intensive experiential learning course for international students especially for those from China. As articulated in the theoretical framework and literature review section (Chapter Two), experiential education programs involve academic, cultural, and social interactions. The current study was conducted using a triangulation mixed methodology approach. Creswell (2018) indicated that such an approach brings both quantitative and qualitative data simultaneously, combines the two types of results in a comprehensive analysis during the study. Perhaps the oldest and most recognizable mixed method of research is the triangulating design (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Jick, 1979). This method is used directly by researchers to compare quantitative and qualitative forms of data in order to support findings or determine differences between data sources or to apply one type of data to improve the insights arising from the other. Normally, the quantitative and qualitative parts of a triangular study are equally emphasized in any research conclusions (Plano Clark, Huddleston-Casas, Churchill, O'Neil Green, & Garrett, 2008). Such data integration enabled me to provide in-depth descriptive information regarding academic, cultural, and social interactions viewed through Chinese student perspectives and experiences and further allowed me to compare and contrast the findings of different perspectives in order to better understand the topic at hand (Creswell, 2014; Creswell &Plano Clark, 2017).

The nature of the course and the way it was structured and taught actually facilitated such a mixed methods approach. The 10-day intensive course allows students to find out the connections between farm operations, rural and Indigenous culture, food systems, and the environment. Classes were taught with a mix of lecture, group work, farm tours, and projects. Each year, students were required to complete five personal journal entries, and final term project or paper describing their course experiences.

I took the Clearwater travel course in 2015 and then worked as a teaching assistant in

2019 with some of the participants. I am aware of the course and numerous difficulties commonly faced by Chinese students. The knowledge of participant's experience in China enabled me to realize and understand their needs. My own experiences facilitated this work as an international student, my past participation in the same course, as well as my fluency in Mandarin. The following section explains the study design, including details about the study participants, data collection procedures, analytical techniques, and any ethical concerns.

3.2 Participants

My research initially involved holding focus group interviews with Chinese students who took this Clearwater travel course in 2017 and 2018. It also involved a community interview to collect reflections on the experience of community instructors.

In addition, this research involved the use of an online survey. I surveyed approximately 100 Chinese students who took the course from 2006 to 2018. There was a rapid growth in the number of students registered in the Clearwater travel course after 2013 and about half of the students each year were international students, most of whom are from China. From 2006 to 2018, the total number of Chinese students registered in this course was 144, and the contact information of 108 students was identified, mostly through social media. A total of 65 students completed the questionnaire (31 female and 34 male), of whom, 58 were Chinese. In total 65 usable survey were received by the end of the survey period. Therefore, the online survey had a response rate of around 60% (Table 1).

Almost half of the participants (30) ranged in age from 20-24 years old, and about the same number (31) ranged in age from 25-29 years old. About 43% (28) of participants were majors in Environment or Geography since most had enrolled in the course to fulfill a requirement for their major or minor. The rest of the participants were enrolled in various other majors, including Business, Economics, Science, Agriculture, Education, etc., and had registered

Table 1. Participants demographic information

Year	# of Chinese Students had taken course	Contact Info Found	Complete Survey
2006	4	2	0
2007	4	4	0
2008	3	0	0
2009	5	3	2
2010	5	3	1
2011	4	3	1
2012	7	5	2
2013	6	5	3
2014	14	10	7
2015	16	11	10
2016	18	15	8
2017	29	22	16
2018	29	25	15
Total	144	108	65
		Response rate	60.19%

Variables	Number
Gender	
Female	31
Male	34
Age (Years)	
20-24	31
25-29	30
DNK	4
Program or department currently registered in or graduate from	
Asper	5
Economics	11
Environment and Geography	28
Science	10
Agriculture	3
Arts (Not include Economics)	4
Education	1
Architecture	3
Total	65

in the course to fulfill a requirement for their electives (Table 1). This gave Chinese students broad opportunities to interact with peers from different backgrounds and other countries during their participation in the course. In addition, 78% (50) of participants still lived in Canada. Ten participants returned back to China after they graduated, and others were living either in the United Kingdom, Australia, or the United States.

3.3 Data Collection

3.3.1 Online Questionnaire

The first important source of data in this study was the survey. The questionnaire was administered was made available online and contained 47 Likert-scaled, multiple-choice and open-ended questions plus 15 demographic questions that were filled out by students who had taken the course since 2006.

Themes represented in the questionnaire include:

- Education and learning

These questions mainly focused on course content, personal experiences, attitudes and feelings.

- Food

Questions focused on previous food habits, attitudes and behaviours and whether or not these had changed since the course was taken. Other questions placed emphasis on local and organic food, and the value of these in the short and long-term

- Farming and rural communities

These questions probed student understanding on the challenges faced by rural areas and attitudes towards a diversity of farming methods.

- Environment awareness

These questions focused on attitudes towards the environment and any changes in environment awareness, and possible differences between students in environmental programs and those that were not.

- Environment/social justice

Questions in this part all referred to injustice as it related to the burden of environmental decline. These focused on Indigenous people and rural communities, and to what degree student attitudes had changed as a function of the course.

- Impact and future learning

Questions aimed at either short-term or long-term impacts of this course, as it related to other university courses that students had taken and to what degree these impacts had changed over time.

- Demographics

These questions focused on background information including student age, gender, country of origin, household income, their study major and year of graduation

I also sent out questionnaires to other international students who had taken the course from 2006-2018. The Chinese-focused questionnaires were sent out firstly in December 2018 to those students who resided in North America, Australia and Europe. In total, 75% of the past students received the survey, although it was easiest to track down the more recent students. Secondly, students who had gone back to China were tracked down in February 2019. All the questionnaires were sent out through Survey Monkey or an equivalent Chinese survey software (Wenjuan). Due to difficulties in linking Survey Monkey to the Internet in China, I copied the questionnaire on a Chinese survey software to send out the questions to those students. I also prepared a Chinese version of the questionnaire, and Chinese students had an option to answer any open-ended questions in Chinese. The participants had a month to respond to the survey, and they were able to choose a time period at their end over that one month. I also sent out up two reminders after the initial survey was sent, these at two-week and at four-week intervals, the latter point also accompanied by an abbreviated survey.

I received a list of all the students who took the course from 2006-2018 from Dr. Stephane McLachlan. Students who resided in North America, Australia and Europe were

tracked down through their email addresses, phone numbers, and social media (Facebook, Twitter). Students who had returned to China were tracked down using Chinese social media (Wechat, Weibo). It was difficult to connect with most students through their university emails, since these had been disconnected by the university upon graduation. Due to these kinds of challenges, there was greater participation by more recent graduates in the survey.

After I received 50 online surveys, I sent out a link so that participants could fill out their personal information. This approach prohibited us from linking this information to their completed surveys, and thus all survey responses remained anonymous. All participants were assured anonymity so that they would feel more comfortable critically evaluating the course. This also helped assure that students may not be predisposed to answer favourable responses. Every student who participated in the survey was paid $20 for completing the survey and all were entered in a draw for a $500 final prize. The draw took place when the survey was closed, in summer 2019. The research was approved by the Joint Faculty Research Ethics Board at the University of Manitoba (J2017, 045).

3.3.2 Focus Group Interview

The second important source of data was the focus group interviews. The first of these was held in August 2017 and the second was held in August 2018. The first series of the group interviews was conducted during the last two days of the course in 2017, whereby all Chinese students were randomly allocated into four equal-sized groups. Each group had around eight students and these interviews each lasted an hour. The interviews revolved around four questions: i) evaluating their relationship to food before and after the course; ii) changes in attitude and behaviour that arose from the course; iii) likes and dislikes about the course; and iv) any differences between this course and other university courses.

The whole meeting conducted in and audio-recorded in Mandarin, therefore, students could show their true views and feelings without the fear of being judged by instructors or other non-Chinese students. Only after they all completed the course and had received their final

grades, did I transcribed those audios files in their entirety and translate them into English, while also hiding the identity of all participants. These interviews were highly successful in 2017 and so were repeated in 2018, again during the last two days of the Clearwater travel course.

There was a confidential identification of the students who attended such group interviews. Records and notes of participants identified by interview using a letter code and a number. Thus, all risks for the student were negligible, and many participants expressed the advantage of reflecting on their learning experiences in the course. At the start of each interview, I informed the participants that they might at any point discontinue the interview and quit.

3.3.3 Community Interview

The last important source of data in this study was the community interviews. The community interviews were held in 2021 summer by a Zoom meeting. The community interviews included Robert Guilford, Minnie Guilford, Sven Conquist, and Jo-lene Gardiner from the Clearwater community, and they are community members as well as community instructors for the course. The interviews revolved around four questions:

i) Do community projects provide benefits to the community? How those community projects benefit the community after the course in the short term or long term?

ii) What are the benefits that community service-learning provides for the community and community members? How community service-learning affects the community and community members during the course and after the course?

iii) How do you think this experiential course creates mutual benefits to international students and the community?

iv) Are there any negative aspects that community service-learning presents to the community?

3.4 Data Analysis

My qualitative analysis consisted of reading and rereading the data to identify any common emergent themes. After transcribing the focus group interviews and the community

interview, I separated the data into sections where each section contained one thought, idea, or concept. I entered these sections into a word document that enabled me to organize the data and to begin the coding process. According to research goals and objectives, data were thoroughly coded grounded on the similarity of emergent concepts and ideas. Data from focus groups and community instructors separated into emergent themes that also helped me compare data, become aware of repetitions, and sort similar content into relevant categories. These data were also combined with the qualitative outcomes arising from open-ended survey questions.

The quantitative outcomes of the survey were evaluated using Excel spreadsheets. Questions are answered on a 7-point Likert scale from 1 totally disagree to 7 totally agree. I calculated the average and standard errors on the Likert-scale data. The percentages of students indicated that students agreed (somewhat agree, agree, strongly agree) or disagreed (somewhat disagree, disagree, strongly disagree), so that neutral answers were excluded. Likert data was analyzed by calculating means and standard errors which also used to assess variation in responses. These quantitative data matched with themes arising from the qualitative data, and data from these two different sources were used to strengthen outcomes.

4. IMPLICATIONS OF EXPERIENTIAL EDUCATION AND COMMUNITY SERVICE-LEARNING

Abstract

Few studies on experiential learning have focused on international students, despite the increased prominence of and economic dependence on such students in post-secondary institutions in North America. The goal of this chapter was to explore the implications of experiential education and community service-learning for international students in a rural travel course, especially for those from China. The results are based on focus group interviews, a community interview and online questionnaires with students who had taken the experiential university course since 2006. The results demonstrated a wide variety of benefits to students from engaging in experiential learning, including collaboration, improved self-confidence and leadership skills. Chinese students improved their English communication skills in part reflecting the higher levels of cross-cultural interactions with Canadian students. These results indicated added attention should be made to international student experiences in experiential learning programs, in part because the impacts of experiential learning on international students is so profound - because of the effective absence of such experiences in both their home and their host countries.

4.1 Introduction

'Living Rural Communities and Environments' is a university travel course that has been delivered each year since 2006 through the Department of Environment and Geography at the University of Manitoba. Each year, 25 - 40 students from a wide number of Faculties across campus take this intensive course over a 10-day period every August in the rural community of Clearwater in southwestern Manitoba. The most important instructors in the course are a wide diversity of local farmers, Indigenous Elders, traditional food experts and community leaders. The number of registered students has grown substantially over the last 10 years and about half of the students each year are international students, most of whom are from China. The course

explores the connection between food systems, rural and Indigenous cultures, consumer attitudes towards foods, and the environment. In just two hours from the campus, students are transported into the past and to the future of rural communities as well as Indigenous communities. As such, a two-hour journey brings an entirely new universe and an educational experience that lasts a lifetime effect on students and community participants alike.

Each year, more and more students from around the world want to study abroad because learning experiences abroad have many long-term impacts, including more profound personal growth and development, advanced employment prospects and opportunities, improved educational performance, enhanced awareness on global issues, and changes in worldview and values (Paige, Stallman, Jon, & LaBrack, 2009). A research study was conducted to document and evaluate international student interests and experiences in an experiential travel course in Manitoba Canada. In total, 38 students responding to a questionnaire showed that Canada provides high-quality learning and a stable learning environment and that they had an excellent experience as graduate students (Li & Tierney, 2013).

Many factors influence the success and satisfaction of international students as they study abroad. These involve the difficulty of combining academic responsibilities with personal and social and cultural shifts in their new host country, adapting to new academic environments and goals and maintaining self confidence in the face of these many changes (Andrade, 2006; Guo-Brennan & Guo-Brennan, 2019). Studies reveal that Chinese students are typically stressed in new learning environments, ones that sometimes persist throughout their stay (Gu, Schweisfurth, and Day 2010; Zhu 2016).

International students usually see cultural differences, a lack of shared interests and different objectives as impediments to education (Brebner, 2005). Domestic-international student pairings or “buddy systems” can help international students to feel more confident with their English-speaking skills (Campbell, 2012; Jacobi, 2018) while also helping students learn to navigate cultural differences and to build new interpersonal relationships (Campbell, 2012;

Greenland & Brown, 1999). Students interacting with a diversity of other students can help enhance their intercultural competence, and high levels of adaptability and openness to other cultural norms are correlated with advanced communication skills (Arasaratnam, 2006; Gibson & Zhong, 2005). Experiential learning provides an excellent opportunity for international and domestic students to improve their social and cultural familiarity and intercultural understanding with one another (Glass and Westmont, 2014). Such experiences provide benefits to both domestic and international students. Learning environments that encourage students to have open-ended and meaningful discussions with one another are critical (Jacobi, 2021). Guiding questions posed by instructors act as conversation starters that can mitigate the fear of intercultural communication; as such it is essential to provide students with opportunities to "go off script" in their conversations and give them the time to do so (Jacobi, 2021).

To explore Chinese students' social and cultural adaptation using an experiential learning method at a large Midwestern university in the United States (Zhang, Zhou, & Stodolska, 2018). Leisure activities and social support played a critical role in helping international student adapt to the host country's new culture, and also stimulated cross-cultural adaptation (Walker, Halpenny, & Deng, 2011). Students had control of cultural understanding initiatives and converted their own lived experiences into knowledge. Cross-cultural communication in outdoor activities gives international students the space for learning and adjusting to their new environments. Indeed, instructors and learning institutions both make an essential part in leading and supporting students as they partake in experiential learning with benefits that that are assumed to persist long into the future (Passarelli & Kolb, 2012).

Students that are provided with an open and supportive learning environment exhibit a greater increase in soft skills such as communication, teamwork, problem-solving, creativity and time management (Chan, Fong, Luk, & Ho, 2017; Crebert et al., 2004a; Crebert et al., 2004b; Natoli, Jackling, & Seelanatha, 2014). This is especially evident when educators encourage mutual respect and meaningful exchange amongst diverse knowledge traditions and academic

cultures in higher education (Ryan, 2011). As such, the roles of international (and domestic) students and educators are reset and in so doing become collaborators as they develop new knowledge and academic expectations together. International students are thus no longer considered as 'problems to be solved' in relationships that are grounded instead in shared experiences and more broadly in experiential approaches to learning (Ryan, 2011). Although common in Northern America and Europe, such learning experiences are also being developed in China. For example, experiential and active learning has become a significant element of post-secondary education lecture reformation in Hong Kong in order to enrich undergraduate learning and its impacts on learners (Chan, 2012b).

Critical thinking and interpersonal communication skills are also necessary when maximizing academic achievement and academic success for international students taking university courses (Glass, Gesing, Hales, & Cong, 2017; Gu, Schweisfurth, and Day 2010; Tran & Pham, 2016). Nevertheless, difficulties with language and a lack of contextual understanding of academic material represent major barriers for such students and undermine their ability to creatively, critically and confidently share their ideas and perspectives in the classroom (Guo, 2012; Myers-Walls et al., 2011). The academic needs of and problems encountered by international students are frequently (and wrongly) described as a deficiency of criticality or intellectual capability. The educational needs and problems of international students are commonly interpreted as a shortage of critical or academic skills, although it is clear that international students generally have less time and fewer opportunities to receive a contextual understanding of disciplinary knowledge and professional experiences in most university curricula (O'Sullivan & Guo, 2010; Paul & Elder, 2014; Thomson, Rosenthal, & Russell, 2006). In studies that focused on the learning experiences of Chinese students, scholars such as O'Sullivan and Guo (2010) and Paton (2011) found that these students actually had clear and optimistic thoughts about critical thinking. They noted that such skills demonstrated a deep understanding of personality and a rejection of conformism as well as memorization and rote

learning. Indeed, "*the depth and variety of thought shown in the students' responses indicate a remarkable level of critical thinking*" as concluded by Paton (2011, p. 36).

The Chinese government has directly affected the public education system for more than a millennium, including the course of study, course content, selection of textbooks, recruiting of teachers, and student behaviour and values (Cook, 2008; Pan, 2007). Even today, most Chinese schools and curricula are grounded in a respect for authority, obedience to the classroom and rigid discipline. Very few learning institutions explicitly affirm the value of individual interpretation in their classes (Neuby, 2012), although such opportunities for learning become feasible when students study abroad. Experiential learning becomes an especially impactful way for international students to develop novel and individualized viewpoints, such as openness to new ideas and learning adaptability (Althobaiti & Obeidat, 2020).

Such learning experiences are based on cultural and social interactions with open-ended real-world environments rather than within academic courses that are offered exclusively in classrooms (Wilson et al., 2016). Engagement in active learning and social programs is crucial for such opportunities to occur (Coryell, Stewart, Wubbena, Valverde-Poenie, & Spence, 2016). The satisfaction of international students with their academic opportunities and achievements was related to the quality of outdoor class projects that helped them to fully appreciate and respond to challenging learning environments (Zhao, Kuh, and Carini, 2005). International students engaging in experiential learning activities also expand their perceptions to include working in professional environments (Fontaine & Todd, 2011). Such students are introduced to and interact freely and frequently with domestic students, instructors, and organizations directly during their experiential learning programs (Althobaiti & Obeidat, 2020). Involvement in active learning programs allowing international students to explore and resolve any educational concerns and to improve their understanding of the underlying concepts because students engage in more productive and open-ended ways with their instructors and peers (Kampman, 2011).

Experiential education that provides an opportunity for students to engage with community service-learning. Many studies suggested that service-learning provides many benefits for international students as they are English-language learners. Scholars indicated that service-learning help students' language development (Guo-Brennan, VanLeeuwen, MacPhee, & Guo-Brennan, 2020; Marlow, 2007), cross-culture perception (Askildson, Cahill Kelly, & Snyder Mack, 2013; Chao, 2016). During the Clearwater course, international students, Canadian students and Clearwater residents meet. Over the ten days, knowledge, perspectives, and talents are shared and most often appreciated leading to greater understanding between cultures. Thus, participation in community service-learning helps enrich international students' cultural understanding (Trice, 2004) and facilitate and build on their existing language proficiency and thus intercultural communication and growth (Harrison, 2012; Trice, 2004; Unruh & Obeidat, 2015; Ying, 2002).

Community service-learning integrates academic learning through meaningful service which meet actual community needs in the community with course-based learning activities (Taylor et al., 2015). A successful service-learning program creates reciprocity between community members and students, a significant component (Harrington, 2014). Community partners can identify the benefits of service-learning through cross-culture interaction, economic benefits, transfer of knowledge, and productivity (Harrington, 2014). Community service-learning projects usually need guidance from community members, who generally design, execute, and evaluate the whole project (Conville & Kinnell, 2010; Schwartz & Fontenot, 2007). For example, the course community instructor indicated those projects benefit the community in the short term and the long term, and the project options are provided by community members according to their needs. Therefore, both the student and the service community are expected to gain equal benefit from the learning opportunities (Furco, 1996).

In this chapter, the research goal is to explore the implications of experiential education and community service-learning for international students, especially for those from China,

taking a post-secondary course focusing on food systems and both rural and Indigenous communities. The specific objectives of this chapter are: i) to explore to what degree experiential education has affected students during this course; ii) to explore how and to what degree community service-learning has affected students and their relationships to the surrounding community during this course; and iii) how their experiences in this experiential course compare to their other educational experiences in Canada as well as in their home countries.

4.2 Results

4.2.1. Experiential Education

4.2.1.1 Learning

Experiential learning provides a different way for students to study, which is designed to engage students' emotions and to enhance their knowledge and skills. The active learning process allows students experience higher satisfaction in their learning. A male focus group participant indicated that this course made knowledge observed and real,

> *"Before taking this course at the university, courses basically in the same way which professor was doing all the talking also played PowerPoint in the class. However, in this course, we are watching and listening to real things, we get in touch with actual processing rather than only listening; those made knowledge become material and visual."*
>
> FG2, 2017

The outdoor environment offers space to students, and to give them a break from being indoors all the time. This becomes vital to those students who learn best through active movement and physical engagement. A male focus group participant believed that field courses have more fun,

> *"Having classes in the field is very interesting. This different teaching mode is exciting. It pays attention to the psychological and mental development of the*

students instead of book-reading."

FG4, 2018

Table 2. Student attitudes towards experiential education

	Mean	**N**	**SE**	**+**	**-**
I wish I had taken more experiential education courses during university	6.25	65	0.16	95.38	0.00
I will remember the content of this course more than other university courses because of this learn-by-doing approach	6.25	65	0.16	93.85	0.00
I had few opportunities to learn-by-doing while I was at university	5.62	65	0.14	80.00	7.69
I generally like book learning more than learning-by-doing	2.85	65	0.10	12.31	64.62

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

Learning by doing is active, hands-on and engaging for students. The vast majority of participants (95.38%) concurred that "*I wish I had taken more experiential education courses during university*" (x=6.25, SE=0.16) (Table 2). The practice is more effective than learning only by theory. The more opportunities students have to master hands-on activities, the better. Those experiences generally increase student interest. Although some participants were neutral, more students disagreed than agreed (64.62% vs. 12.31%) with "*I generally like book learning more than learning-by-doing*" (Table 2). However, such active approaches generally leave a more profound and lasting impression. The great majority of participants (93.85%) thus indicated that "*I will remember the content of this course more than other university courses because of this learn-by-doing approach*" (x=6.25, SE=0.16) (Table 2).

The benefits of such active approaches to learning were also evident to some of the rural community instructors as one community instructor indicated,

> *"Experiential courses are an excellent way of learning since they stimulate the students in so many ways. They are immersed in the rural environment almost 24/7 for two weeks and are affected physically, socially, emotionally, and certainly intellectually. Most students will never forget the experience and will have gained a much deeper understanding and appreciation for rural and Indigenous communities."*
>
> Minnie Guilford, Community instructor

Interacting with others from diverse cultures allows students view life from different viewpoints. A female focus group participant pointed out that she has opportunities to learn about different cultures in this course,

> "*We can communicate with many students outside of the class, and then we know more about other people's cultures. Many exciting things will happen when different cultures combine. I like to communicate with different people to know about their culture. It's great fun for me to talk to people of different races and ages.*"
>
> FG3, 2017

The great majority of participants (98.46%) agreed that "*learning about other cultures from other students*" (x=6.18, SE=0.15) (Table 3) was a significant motivation that prompted students to register in the course. Students generally have few opportunities to meet and talk with students from other cultures and especially the outside community when taking courses on the university campus. Thus, 93.85% of participants also indicated that "*learning about rural Canadian culture*" (x = 6.15, SE = 0.15) (Table 3) was another important motivation for taking the course. A male focus group participant identified that he understands more about rural communities because of this course,

"*I get to know more local culture, including the work and life of local farmers. Many local people were invited to give lessons, sharing their experiences and stories and even some changes. It is a great inspiration to me, and there are lots of referential values*."

FG4, 2017

Table 3. Motivations for registering in the Clearwater course

	Mean	**N**	**SE**	+	-
Learning in a very different way	6.46	65	0.16	96.92	0.00
Hearing that the course was fun	6.29	65	0.16	93.85	0.00
Learning about other cultures from other students	6.18	65	0.15	98.46	0.00
Learning about rural Canadian culture	6.15	65	0.15	93.85	3.08
Meeting students from other cultures	6.12	65	0.15	93.85	0.00
Learning more about food and where it comes from	6.12	65	0.15	92.31	0.00
Hanging out with my friends	5.82	65	0.14	84.62	1.54

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

4.2.1.2 Relationships

One of the many benefits of communicating with instructors is that it can help students feel more comfortable in the course and more connected to Canadian culture. Students who interact with their instructors are less likely to become dispirited and to drop out.

Table 4. Students' personal experiences with the Clearwater course

	Mean	**N**	**SE**	**+**	**-**
This course was very different from other courses I have taken at the university.	6.48	65	0.16	96.92	3.08
I got to know the instructors in *this* course more than in other university courses I have taken	6.22	60	0.17	91.67	0.00
Learning outside the classroom setting increased my interest in the course content.	6.20	65	0.15	95.38	0.00
I was surprised by how engaging the course was	6.18	65	0.15	96.92	1.54
I liked living with other students while taking this course	6.14	65	0.15	93.85	0.00
This course required more work on my part than other courses I have taken.	4.83	65	0.12	49.23	16.92
This course required too much group work	4.60	65	0.11	49.23	26.15
I regret having taken this course	1.77	65	0.12	9.23	89.23
I would never recommend this course to my friends	1.63	65	0.13	4.62	90.77

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

The majority (91.67%) of international students agreed that "*I got to know the instructors in this course more than in other university courses I have taken*," (x=6.22, SE=0.17) (Table 4) as they indicated that they had a closer relationship with the course instructors which in turn facilitated learning. A female focus group participant indicated that this course provides open and safe environment for students to know more about instructors,

> "*We were looking at the pictures of corn when we had class at university, but now we see the real one. The essential difference is that when we had a course in the university, we had no access to our professors, but now, we can speak to our instructors or TAs directly and know more about their thoughts and experiences,*

which are of great help to us."

FG1, 2017

The majority of students (96.92% and 98.46%, respectively) felt that "*getting to know instructors better*" (x=6.28, SE=0.16) and "*getting to know other students better*" (x=6.15, SE=0.15) was important features of the course (Table 5).

Table 5. Course activities that students found personally rewarding

	Mean	**N**	**SE**	+	-
Hands-on community projects	6.37	65	0.16	96.92	0.00
Getting to know instructors better	6.28	65	0.16	96.92	1.54
The final thank-you feast	6.23	65	0.16	93.85	1.54
Getting to know other students better	6.15	65	0.15	98.46	0.00
Visits on farms	6.12	65	0.15	92.31	0.00
Interacting with farmers	5.97	65	0.15	90.77	0.00
Camping with other students	5.92	65	0.15	87.69	0.00
Learning about Indigenous (Aboriginal) cultures	5.83	65	0.14	89.23	0.00
Cleaning with other students	5.74	65	0.14	84.62	1.54
Interacting with Indigenous (Aboriginal) Elders	5.71	65	0.14	83.08	4.62
Cooking with other students	5.66	65	0.14	84.62	3.08
Hiking on nearby trails	5.45	65	0.13	84.62	3.08
Participating in a sweat lodge	5.03	65	0.12	73.85	3.08
Visiting the Swan Lake First Nation	4.97	65	0.12	76.92	0.00

(NOTE: the course has changed over the years so not all options may be relevant; N/A (not appropriate)
* 1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

This course is different from most other university courses since it requires that students live on site and interact with one another and with instructors for 12-16 hours each day. As one community instructor also felt,

"*It was really wonderful just to meet everybody get to know people. It's actually hard to leave at the end of the day.*"

Troy Stozek, Community instructor

A female focus group participant described, such sustained engagement provided opportunities to them to communicate with each other and to gain new ideas and knowledge and with exciting and meaningful opportunities for discussion,

"*We communicate with different people and cultures. In university, we would only know some students after a semester study. I'm not familiar with my classmates at the university, even the people sitting next to me. But in here, we could be familiar with every one of them after ten days. This course is meaningful and exciting.*"

FG4, 2018

The benefits of group work in this course included development of higher-level thinking, oral communication, teamwork, and leadership skills while also exposing students to and an increased understanding of diverse perspectives. A male focus group participant suggested that teamwork and collaboration skills have improved,

"By living together, my ability to work as a team was much improved. We cooperated and gained good friendships."

FG2, 2017

4.2.1.3 New Experiences

Experiential learning is designed to better engage with students when it comes to their knowledge and skills also with respect to their beliefs and personal growth. Active learning brings significant rewards for students when they learn, while also enabling them to encounter new experiences.

Students appreciated activities like "*camping with other students*" (x=5.92, SE=0.15) (Table 5), "*cooking with other students*" (x=5.66, SE=0.14) (Table 5), "*cleaning with other students*" (x=5.74, SE=0,14) (Table 5) and "*hiking on nearby trails*" (x=5.45, SE=0.13) (Table

5). In many cases, students experienced such "typically Canadian" activities for the first time in their lives. A female focus group participant expressed her interest in camping,

> *"I like camping very much though this was the first time, it was fun to be with so many people. I found it interesting and comfortable to spend time outdoors and with Canadians. I felt very warm when we chatted around the campfire every night and that made me feel what the environment class would be. The hiking was a little bit hard, but they were all interesting experiences."*
>
> FG2, 2017



Figure 3. Students camping together at the outside of the local school (Photo Credit- Zhenli Zhang, 2018)

At least such students had not previously experienced outdoor and nature-based experiences before. As a female focus group participant spoke,

> *"It was my first time to go camping and to experience the fun of camping, and I really enjoyed the feeling of being in nature."*
>
> FG3, 2018

A male focus group participant indicated, such learning opportunities also revolved around food and cooking together,

> *"During the course, we have been asked to cook and clean in a group in turn, we need to cooperate with other students, meanwhile, we can learn some cooking skills, including some kinds of western dishes."*
>
> FG4, 2018



Figure 4. Community instructor Michelle Schram working together with students to make jam (Photo Credit-Extended Education University of Manitoba, 2016)

The lived-in and hands-on learning experience contrasted greatly with university courses that students had previously taken. A male focus group participant indicated how differences in this course and other university courses,

> *"I think the class produced lots of differences from other university courses. It was interesting to visit in an outdoor education way and was excited to go hiking and it met the topic of the class, which was about the environment. It was good for me to go out."*
>
> FG1, 2017

Participating in these new experiences allows students to learn new skills, some of which may benefit them in their future career and life. Evening classes provide plenty of events for learning new skills like canning and bread-making with residents of Clearwater. A female focus group participant identified, students also learned new technical skills during the course, these related to the use of physical tools and needed in order to perform specific tasks for group projects,

> "*I developed a lot of new skills, such as the hands-on ability. In the project experience on the last day, we got to use the tools we had never used before."*
>
> FG4, 2017



Figure 5. Students are cutting lumber as a group for their community project (Photo credit-Stephane McLachlan, 2018)

4.2.2 Community Service-Learning

4.2.2.1 Farming and Rural Communities

All students were provided with opportunities to engage in meaningful community service with outdoor learning and to reflect critically on these experiences and thus to enrich

their own learning while also contributing back to the local communities and the host organization and partner for the course, the Harvest Moon Society. “The Harvest Moon Society is founded in the spirit of cooperation, community, camaraderie, and a shared interest in building a sustainable food system for future generations” (HMS, 2016). The Harvest Moon Society bought the elementary school and transformed it and sites into the Harvest Moon Learning Center. The Harvest Moon Society is involved in many educational programs in order to forward its goal of thriving rural communities, healthy land, environmental stewardship and regenerative agricultural applications (HMS, 2016).

The great majority of students (89.23%) felt that “*community service-learning should be an important part of all university education*” (x=5.85, SE=0.14) (Table 6). In practice, most students work in groups on projects identified as important by the Harvest Moon Society and/or the local community in ways that they could apply their knowledge and skills to help address community priorities. Students working in pairs or small groups discuss the underlying issues that gave rise to the projects and in many cases identified or developed solutions to problems while working on such community projects. Such community service-learning provided students with opportunities to give back while also developing skills in problem solving and project management. But it also provided students with opportunities to persist and persevere through any immediate challenges and thus enhance their own self-belief and to build their self-confidence during the process.

Yet, importantly such interactions with the students and the community projects had tangible benefits for the local communities as well. The great majority of students (93.85%) felt that “*community service-learning has meaningful benefits for both local community and students.*” (x=6.12, SE=0.15) (Table 6). As community instructor also indicated benefits to local communities,

> “*Most rural and Indigenous community members would enjoy the hosting experience. Most members appreciate meeting the students and learning about the*

students' background, culture, world view, or simply sharing a few laughs."

Minnie Guilford, Community instructor

The great majority (95.38%) of students also believed that the final feast was a *valuable* and tangible way of showing their thanks to the local community (x=6.06, SE=0.15) (Table 6). A female focus group participant represented the final thank-you feast is an important way to express their thanks to the community,

"On the last day of the course, students either individually or in a small group prepared a dish and serve it at the final feast, that will show our thanks to the local community. It is enjoyable to talk with a lot of local people, and they are also very interested in Chinese cultures, including diet, characters and tea culture."

FG4, 2017

Community instructors and community member also affirmed the value of the feast,

"*I think we had a crew over there, and I think food is a huge thing, and I always think that year after year. The crowning day that I think many people remember is a Sunday night feast. And I think in past years, like we've had, you know, 90 percent of the community out and for people around there and they're getting a chance to try food that they would never get a chance to try that. And it was a real eye-opener. And I mean, everybody loves to eat. Everybody loves to get together. And it was nice to see that hall filled with, not just people from Clearwater, but from everywhere where there was a workshop. The donkey farm, people from Swan Lake, coming from different farms, they would go too. That was just a real, real interesting moment to see young and old cultures get together."*

Sven Conquist, Community instructor

Table 6. Students attitudes towards community service-learning

	Mean	**N**	**SE**	**+**	**-**
I feel that community service-learning has meaningful benefits for both local community and students.	6.12	65	0.15	93.85	0.00
The final feast was a *valuable* way of showing our thanks to the local community	6.06	65	0.15	95.38	1.54
I wish I had more opportunities to participate in community service-learning while at university	5.89	65	0.14	86.15	0.00
I feel that community service-learning should be an important part of all university education	5.85	65	0.14	89.23	1.54
I feel that community service-learning played an important role in *my* university courses	5.60	65	0.14	83.08	4.62
I feel that community service-learning has no place in university education	3.43	65	0.10	32.31	50.77
I feel that my community project had very little benefit for the community or local environment	3.31	65	0.10	27.69	56.92

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

Meanwhile, the local community members also felt this intensive two-week course creates mutual benefits to international students and the Clearwater community, facilitating cultural understanding. As a community instructor indicated, this course creates a space to connect the local residents and international students,

> "*Historically, the Clearwater community has not had a lot of contact with people from other countries. Without actual interaction, knowledge and attitudes towards others can be formed based only on hearsay or stereotypes. However, during this course, international students and Clearwater residents meet. Over the ten or so days, knowledge, perspectives, and talents are shared and most often appreciated leading to greater understanding between cultures.*"
>
> Minnie Guilford, Community instructor

Students visited many farms for a close encounter with their food systems and the many different methods of agriculture. By talking with local farmers and ranchers and engaging with different rural cultures, students have learned about the large variety of farming approaches in Canada and how those interact with and impact on the environment. Many participants (92.31% and 90.77%) agreed that "*visits on farms*" (x=6.12, SE=0.15) and "*interacting with farmers"* (x=5.97, SE=0.15) (Table 5) were enjoyable and important course activities over the 10 days. A male focus group participant described that these course activities provide up-close experiences,

> "*It was a very interesting trip, which took us to visit farms prearranged. From the aspect of the curriculum, I like the lesson during which we could be in direct contact with the crops and farms, during which I had deeper feelings.*"
>
> FG1, 2018



Figure 6. Final thank-you community feast where students serve their own dishes to local community members (Photo credit: Zhenli Zhang, 2016)

4.2.2.2 Projects

The course created an opportunity for students to develop and to partake in unique hands-on projects that have a significant influence on and benefits for Clearwater as a community and the Harvest Moon Learning Centre, the site where most of the indoor course activities took place and where the students camped over the 10 days. Each community project was identified beforehand as being relevant and useful by the Harvest Moon Society. As a community instructor indicated, community projects definitely benefit the community,

> "*Yes, community projects benefit the community in the short term and the long term. The project options are provided by community members according to need. In the short term, the community projects provide a source of new energy and pride for regular volunteers and, of course, things get done. In the long term, having help from the students renews hope that the community will survive and be vibrant."*
>
> Minnie Guilford, Community instructor

Although some participants were neutral, more students disagreed than agreed (56.92% vs. 27.69%) with "*I feel that my community project had very little benefit for the community or local environment*" (Table 6). A survey respondent indicated how their community project help the community,

> "*Our first part of the community project included designing and hosting a website for showing stories, pictures, and videos for this course. The other part of the project set up a wireless access point system that intended to provide better internet connection for future students and community members at the Harvest Moon Society.*"
>
> Survey# 27, 2016

Some projects focused on providing support for the annual Harvest Moon Festival, the purpose of which is to celebrate the harvest season, support local food production, and provide

opportunities to connect urban and rural communities. Another survey respondent indicated how their community project support the Harvest Moon Festival,

> "*Our group made lanterns to decorate the final thank-you feast and Harvest Moon Festival. We hope the handmade lanterns can help to decorate and celebrate the upcoming Harvest Moon Festival with the public. The lanterns are colorful, the meaning of lanterns is best wishes and for grand celebration in China. Therefore, we put some Chinese culture in the festival while also bringing best wishes to the festival.*"
>
> Survey# 49, 2015



Figure 7. Students made Chinese lanterns as decorations for the thank-you feast and for Harvest Moon Festival (Photo credit: Zhenli Zhang, 2015)

Students in another group project built a simple woodshed that could be used to store firewood at the Harvest Moon Learning Centre. A survey respondent who was in the group to build that woodshed described,

> "*We built a woodshed for school, the shed for storing wood and especially firewood. We had the carpenter's level to measure and make sure the shed was*

square, and we dug hole to make it more stable. We also use the same method for the diagonal measurements, which made for a perfect woodshed."

Survey# 32, 2015



Figure 8. Students built a woodshed for the Harvest Moon Society as their community project (Photo credit: Zhenli Zhang, 2015)

4.2.2.3 Indigenous Experiences

International students have heard much about Indigenous people since they arrived in Canada, but for most this was the first time to interact directly with and to learn from and about Indigenous people and cultures. It also represented an opportunity for them, as well as the many domestic students who were not Indigenous themselves, to learn firsthand about the impacts of colonialism on the lives of Indigenous people. A male focus group participant stated that this course offers an opportunity for students to have in-person contact with Indigenous people,

"*We had much contact with Indigenous people these days. We heard a lot about their devastating experiences and their unfair treatment. We talked with them about the various problems that they faced today. It feels great, as I could meet with*

Indigenous people, and through this class, I learned some thoughts from the Indigenous people on food and the environment."

FG2, 2018

Indigenous people have a rich history with numerous cultural and spiritual traditions. As non-Indigenous people who live and/or study in Canada becoming more aware of injustice as experienced by Indigenous people as well as their rich cultures, non-Indigenous people can further support or help address those issues by continuing to learn about such experiences while also to promote mutual understanding and respect between newcomers and the First Peoples.

Students recognized the value of learning about Indigenous (Aboriginal) cultures in this process (x=5.83, SE=0.14) (Table 5). Most (76.92%) also believed that "*visiting the Swan Lake First Nation*" was an important and enriching cultural experience (x=4.97, SE=0.12) (Table 5). A female focus group participant described a day trip in Swan Lake First Nation,

"*We went to the camp at Swan Lake First Nation. They danced and played drums for us. It was interesting since we had never seen any traditional Indigenous cultures*."

FG1, 2018

This course also offers an opportunity for students to learn about First Nations culture and language from an Elder and then to participate in a traditional spiritual ceremony known as the sweat lodge, which is a cleansing ceremony for both the body and spirit. Although many international students ultimately chose not to participate, in part because of religious reasons or concerns about the extreme heat, most (73.85%) still agreed that course-content related activities "*participating in a sweat lodge"* was an unforgettable experience (x=5.03, 0.12) (Table 5).



Figure 9. Students getting ready to participate in the sweat lodge as a traditional Indigenous cultural ceremony (Photo credit: Extended Education University of Manitoba, 2016)

4.2.3 Other Educational Experiences in Canada or in Their Home Countries

4.2.3.1 Teaching Approaches

There are many differences in teaching methods between this course and other courses in the university. This course was at once grounded in experiential and community service-learning and revolved around the shared learning experiences of all students and the surrounding communities in sharp contrast to the professor- and textbook-focused learning of the other university courses that the international students had mostly taken beforehand. The majority of students (96.92%) thus indicated that "*this course was very different from other courses I have taken at the university*" (x=6.48, SE=0.16) (Table 4). This alternative approach to learning was generally well received by the international students. Most (95.38%) students found out "*learning outside the classroom setting increased my interest in the course content*" (x=6.20, SE=0.15) (Table 4). A female focus group participant indicated that this course makes great fun and is different than other in-class courses,

"The feeling is more real and full of fun, and I'm willing to take another course like this. The life here is unlike university life on campus, where we must memorize or take notes on the class."

FG4, 2017

A large majority of participants (89.23% and 90.77%) disagreed with the statements that "*I regret having this course*" (x=1.77, SE=0.12) and "*I would never recommend this course to my friends*" (x=1.63, SE=0.13) (Table 4). A male focus group participant said he will recommend this course to others,

"*This class encouraged us to learn from activities, so we experienced those farms and local cultures. We can learn through our experience and we will never forget what we have done. I hope I can take more courses in an experiential learning setting. It was an excellent opportunity for me to experience this new learning approach. I will definitely recommend this course to my friend."*

FG3, 2017

The communication with the instructors was generally more open-ended and rewarding. This contrasted with most other university courses, where students usually leave right after the class and have less opportunity for connections or in-person experiences with their instructors. Most participants (88.33%) concurred that "*instructor support was available for international students taking this course so that they could better succeed*" (x=5.93, SE=0.16) (Table 7). A male focus group participant identified that students always have support from course instructor,

"The professor who taught the course was nice; he respected everyone and tried to understand everyone's thoughts and habits."

FG1, 2018

The course emphasized the importance of building high-quality learning opportunities between instructor and students, which helped instructors to get to know every student, and to provide space to discuss their individual needs and to address their often-unique questions. Indeed, additional classes were held for international students that helped provide learning opportunities that focused on the history of Indigenous and rural communities; the sometimes inaccessible technical language surrounding food systems and farming; and for that matter camping and cooking Canadian food and anything else the students wanted to focus on. Thus, 90% of international students believed that "*my experiences as an international student were valued in this course"* (x=5.80, SE=0.15) (Table 7). More generally, most students felt that such student-centred learning approaches also characterized Canadian approaches to learning as a whole; indeed, a large majority (80%) indicated that "t*he experiences of students are valued more by university instructors in Canada than in my home country*" (x=5.32, SE=0.14) (Table 7). Moreover, the outdoor teaching approaches and methods were generally more innovative. A female focus group participant indicated, instructors promotes student interactions with one another and the instructors, engagement, and self-confidence in a supportive learning environment which students feel was safe and relaxed,

> "*Comparing with other courses that we learned were close to theoretical knowledge, I felt very free in this course, which encouraged students to develop critical-thinking skills. Also, in this class, the professor led us, bringing us into the practice and we learned through what we experienced. It stands in a more comfortable environment to learn knowledge, and it will be more helpful in my future.*"
>
> FG3, 2018

Table 7. International students assess the value of their experiences compared to other university courses they have taken in Canada

	Mean	N	SE	+	-
This course encouraged *students* to communicate their own ideas	6.05	60	0.16	90.00	3.33
I learned more about Canadian culture in *this* course than in other university courses I have taken	6.05	60	0.16	91.67	3.33
I learned more about students with cultures from around the world in *this* course than in other university courses I have taken	6.03	60	0.16	90.00	1.67
This course encouraged *international students* to communicate their own ideas	5.93	60	0.16	91.67	3.33
I feel more comfortable asking questions and expressing my ideas in this course than in other university courses I have taken	5.93	60	0.16	90.00	1.67
Instructor support was available for international students taking this course so that they could better succeed	5.93	60	0.16	88.33	0.00
Even now, the content of this course is higher in impact than other university courses that I took	5.91	65	0.14	89.23	0.00
There was a greater chance to make friends with Canadian students in this course than in other university courses I have taken	5.88	60	0.16	81.67	3.33
My experiences as an international student were valued in this course	5.80	60	0.15	90.00	1.67
My English communication skills have improved as a result of taking *thi*s course compared to other university courses I have taken	5.65	60	0.15	85.00	3.33
I learned more from other students in *this* course than in other university courses I have taken	5.62	60	0.15	78.33	5.00
The experiences of students are valued more by university instructors in Canada than in my home country	5.32	60	0.14	80.00	1.67

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

4.2.3.2 Impacts

For international students to become proficient and comfortable speaking in their second language, they need to have the opportunity to do it - and to do it often. In this course, students had many such opportunities, and to discuss course content in small groups and to work and

share ideas with project team members. Students were thus able to share their thoughts, to express their opinions, and to give feedback to one another. Almost all of these activities provided opportunities for communication. Over 90% of students especially international students concurred that "*this course encouraged students to communicate their own ideas*" (x=6.05, SE=0.16) (Table 7) and "*this course encouraged international students to communicatete their own ideas*" (x=5.93, SE=0.16) (Table 7). Thus, 85% of international students believed that "*my English communication skills have improved as a result of taking this course compared to other university courses I have taken"* (x=5.65, SE=0.15) (Table 7). A female focus group participant felt comfortable to speak their second language in this course,

> "*Show respect to everyone and we have always been encouraged to talk and speak out and to share our ideas."*
>
> FG4, 2017

The great majority of participants (91.67%) indicated that "*I learned more about Canadian culture in this course than in other university courses I have taken*" (x=6.05, SE=0.16) (Table 7). 90% of participants also agreed that they learned more about students with cultures from around the world in this course than in other university courses they have taken (x=6.03, SE=0.16) (Table 7). Very few participants (3.33%) disagreed that there was a greater chance to make friends with Canadian students in this course than in other university courses they had previously taken (x=5.88, SE=0.16) (Table 7). One respondent to the survey thus indicated that such communication and interactions extended beyond their own cultural groups to include other cultures and actually resulted in friendships,

> *"We did not have a lot of interactions with our classmates on campus, but we can have a lot of interactions and communications in this class: it helps me to meet more new friends. We communicated with new friends, whether they are Canadian or Chinese. We have new ideas and knowledge that we learned from them. It is fun*

when discussing people with different views and cultures. After 10 days, we have gained great friendships with Canadian students."

Survey# 4, 2017



Figure 10. A Chinese and Canadian student chatting late in the evening inside the Harvest Moon Learning Centre (Photo credit: Zhenli Zhang, 2016)

4.2.3.3 Assessing the Value

Overall, the percentage of high school or university that international students had previously taken in the home countries that were experiential or learning-by-doing in approach were very low. In total, 74% (or 39 of 53) of participants indicated that 0-10% of the courses that they had taken in the high school were experiential in approach, and none indicated that 40% or more of the high school courses that they had taken were experiential in approach (Fig 11). Most students had not taken any university courses in the home countries, but of those that had 79% (or 22 of 28) indicated that 0-10% of those courses were experiential in approach (Fig 11). Thus, most (73.33%) participants agreed that "*experiential courses (that emphasize hands on learning or learning-by-doing) are rare at high schools and universities in my home country*" (x=5.25, SE=0.14) (Table 8). Although

some participants were neutral, many more participants agreed than disagreed (75% vs 5%) with the statement that education approaches in their home country are more likely to encourage students to memorize and regurgitate course content (Table 8).

Table 8. International students assess the educational value of the Clearwater course compared to other courses have taken in their home country

	Mean	**N**	**SE**	**+**	**-**
I wish courses like this one were more available at high schools and universities in my home country	5.78	60	0.15	85.00	1.67
These kinds of experiential courses are more available in Canadian universities than they are at high schools and universities in my home country.	5.45	60	0.14	80.00	3.33
Experiential courses (that emphasize hands on learning or learning-by-doing) are rare at high schools and universities in my home country	5.25	60	0.14	73.33	6.67
Education approaches in my home country are more likely to encourage students to memorize and regurgitate course content	5.17	60	0.13	75.00	5.00
Learning in any outdoor environment as emphasized in this course are widely available at universities in my home country.	3.75	60	0.11	38.33	30.00
Environmental courses are common in my home country	3.70	60	0.11	40.00	25.00
I was very stressed by the learning approaches taken in this course.	2.57	60	0.12	10.00	75.00

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

Most (85%) students generally wished that courses like the "Clearwater course" were more available at high schools and universities in their home country (x=5.78, SE=0.15) (Table 8). One survey respondent to the questionnaire indicated they mostly use traditional in-class learning methods in their home country,

> *"In my home country, the traditional leaning approach is common: teachers doing all the talking in the class and we have homework every day. Most of those are*

based on textbooks in order to memorize content."

Survey# 15, 2014

Experiential courses were generally more available at Canadian universities than they were at high schools and universities in their home countries (x=5.45, SE=0.14) (Table 8), yet even these were relatively uncommon for international students. Slight less than half (44% or 24 of 54) of the participants indicated that 0-10% of the university courses they had previously taken in Canada were experiential in nature and very few (3% or 2 of 54) indicated that 21-40% of their courses were experiential (Fig 11).

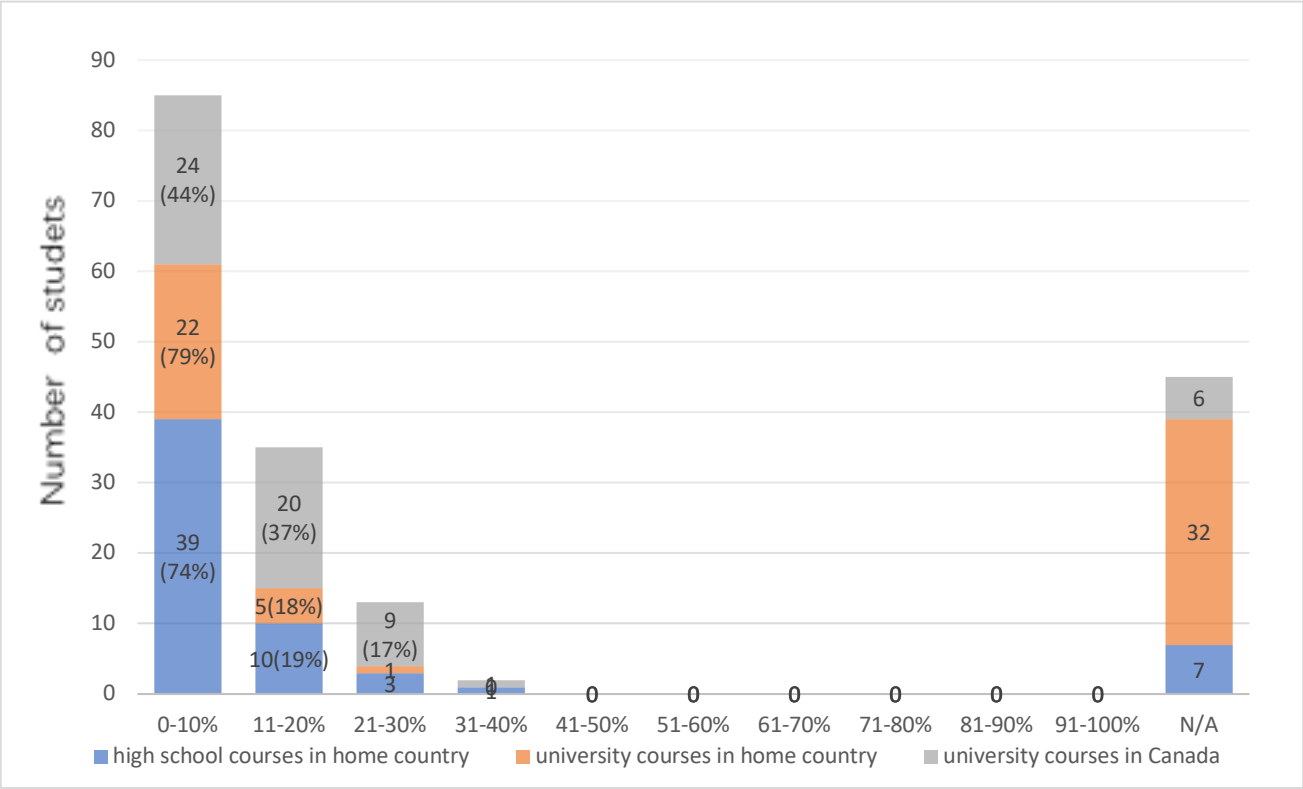


Figure 11. Percentage of courses were experiential or "learning by doing" in approach
Note: Percentage of **High School Courses** That Student Took in **Home Country** were Experiential or "Learning by Doing" in Approach (**BLUE**);
Percentage of **University Courses** that student took in **Home Country** were Experiential or "Learning by Doing" in Approach (**ORANGE**);
Percentage of **University Courses** that students took in **Canada** were Experiential or "Learning by Doing" in Approach (**GREY**)

Even fewer of university courses that these students had previously taken in Canada focused on rural or Indigenous issues. Thus, 77% of participants indicated that less than 10% of their university courses had a substantial focus on rural issues (Fig 12). And an even greater proportion of the students (84%) indicated that less than 10% of their university courses had a substantial focus on Indigenous issues (Fig 12). Moreover, none of the participants indicated that 20% or more of the university courses they had taken in Canada had a substantial focus on either Indigenous or rural issues (Fig 12).

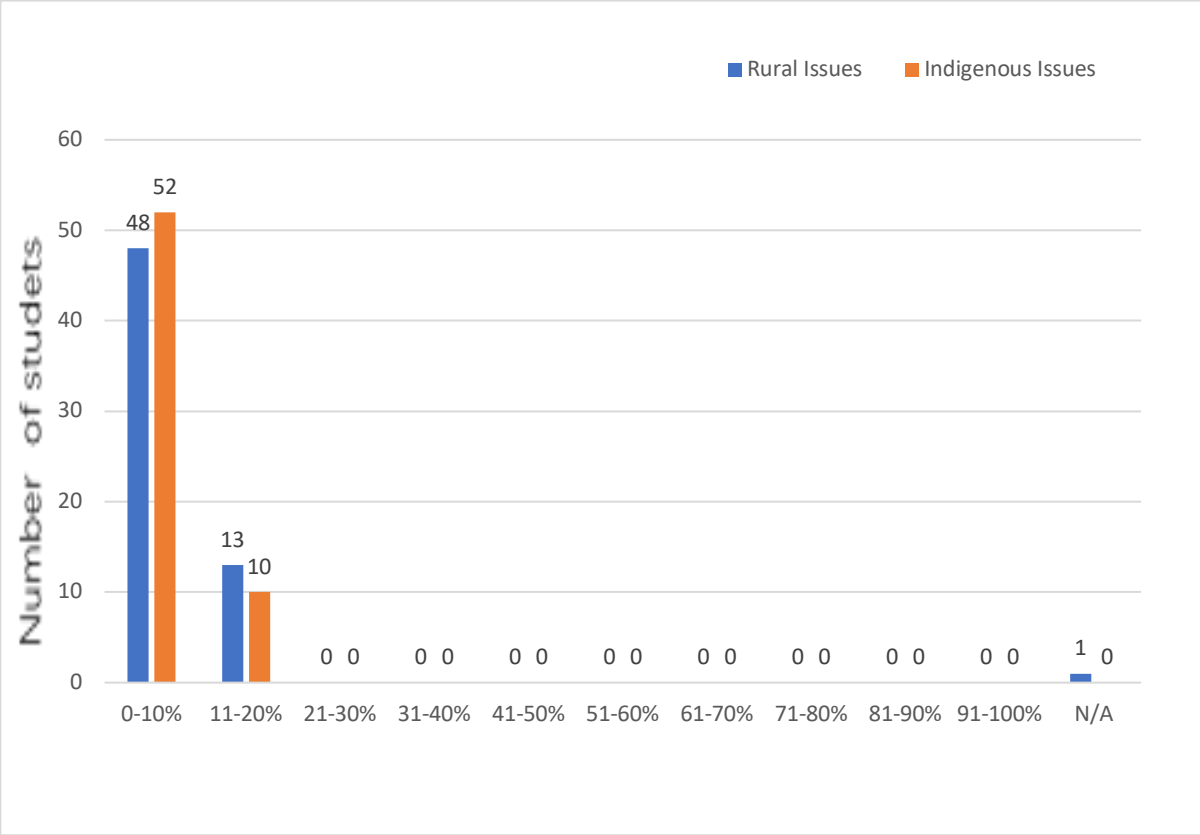


Figure 12. Percentage of university courses focusing on rural issues and Indigenous issues

Note: Percentage of the university courses that students have taken had a substantial focus on **Rural Issues**; (BLUE)
Percentage of the university courses that students have taken had a substantial focus on **Indigenous (Aboriginal) Issues (ORANGE)**

4.3 Discussion

Active learning is generally highly effective and motivating for many students, encouraging them to be more interested and engaged in their own learning. These results suggested that active learning brings greater student satisfaction and thus academic performance. The results are consistent with those of Sibthorp et al. (2015) who showed that participating in outdoor experiential programs better enabled students to learn and to change their perspectives on learning as it was seen as enjoyable and fun. Active learning teaching approaches are also considered more effective in improving problem-solving skills and in applying knowledge to other contexts compared to conventional lessons (De Freitas, 2006; Shellman, 2001; Smith & Boyer, 1996). Learning by doing or hands-on learning is more effective than when learning is only shaped by theory or book-learning. As with these results, direct experiences and focused reflection have greater and longer-lasting impression. Bradberry and De Maio (2019) also found that creating opportunities for active learning helped motivate them to understand the content and to achieve in the course. These higher levels of motivation in turn lead to better learning in quality and intensity since students utilize their knowledge carefully to make themselves choices. Elements that are promoted by active learning process include higher-order thinking, such as cognitive skills; soft skills such as problem solving and project management and social skills such as cooperation and team work (Coker, Heiser, Taylor, & Book, 2017; Hammond & Albert, 2020), all of which were highlighted by international students in this study.

Student experiences also demonstrated a wide variety of advantages from engaging in experiential learning, notably those related to critical thinking skills. Other studies show that the educational needs and shortcomings reflected by international students are commonly interpreted as a shortage of critical or situational skills, and that international students have less time and fewer opportunities to develop a contextual understanding of disciplinary knowledge and professional experiences in most host-country university curricula (O'Sullivan & Guo, 2010; Paul & Elder, 2014; Thomson, Rosenthal, & Russell, 2006). These results indicated that students

embraced the opportunity to do so when these were provided in a culturally appropriate, relevant, and accessible manner. Students discussed and critically evaluated course content amongst themselves and learned from one another, in ways that their diverse perspectives enriched the insights for all participants in the course – students of course, but also university and community instructors, and community members alike. The many cultures reflected in this course helped students view life from different perspective but also better enabled them to adapt to the novel experiences represented here, and in turn fostered new ways of thinking and approaching and solving problems. Paton (2011) noted a significant degree of critical thinking is the depth and variety of thoughts and ideas arising from student responses. Critical thinking demonstrated a deep understanding of personality and a refusal to conform and to depend of memorization and rote learning (O'Sullivan & Guo, 2010; Paton, 2011).

Through the Clearwater course, international students were inspired to make connections to real-world scenarios, and these in turn made the learning more memorable and meaningful. Translating ideas into action or learning-by-doing helps builds meaning that in turn also enables critical insights and thus the understanding of underlying concepts and theories (Ely, 2018; Goralnik, Thorp, & Rickborn, 2018). Community service-learning affects student behavior in the future, by engaging and contributing to social and real-world insights but by also improving their soft skills such as project management and critical thinking as well as working and other life skills. As part of experiential learning, students learned technical skills during the course and community projects, those skills related to the use of physical tools and needed to perform specific and tangible tasks. International students bridged their previous learning and life experiences when using critical thinking to identify, analyze, and evaluate content and issues or when developing tangible skills like the use of power tools or building woodsheds. The dramatic leaps in learning reflected in these kinds of novel experiences were life-changing for some students.

Many other benefits arose from international students engaging in active learning, including soft skills such as collaboration and teamwork. Students worked in pairs or in small groups to discuss concepts or to find pragmatic solutions to problems while working on their community projects, such as painting boards for a trail, building decks or a woodshed, or helping facilitate community events such as the annual Harvest Moon Festival that is attended by over 2,000 people each year. Students learned much by developing and explaining their ideas to others and participating in activities in which they could in turn learn from their peers. Situation-specific outdoor learning experiences enhance their abilities to collaborate with others from a wide diversity of academic disciplines (Cooley, Burns, & Cumming, 2015). Students developed skills in organizing and planning activities, the confidence to share these ideas with others, working collaboratively with others, while also giving and receiving feedback and evaluating their own learning. Other researchers, including Cooley, Burns, and Cumming (2016), have similarly argued that outdoor education programs are especially effective in helping usually university students develop and facilitate reflection on group work skills and social interaction, and that these become helpful for the future development of students when they return to the university.

The use of collaboration and groupwork in community service-learning also benefits students with low self-confidence. Indeed, such learning is a fantastic way to build student confidence. The results indicated that international students felt value in the course, and their previous learning and life experiences were valued by both the university and community instructors. Instructors promoted student interaction, engagement, and self-confidence in a supportive and affirming learning environment in which students feel safe and relaxed to learning from others. This became especially important when students were encountering experiences for the first time, whether this be the use of power tools, camping, participating in Indigenous culture and ceremony, or even trying novel foods. These results were consistent with those of other studies that show the connections between student learning performances and

community service-learning when it comes to building confidence, cultural understanding, and skills (Kohlbry, 2016; Long, 2016). Students' academic experiences and achievements affect student self-confidence, and their sense of competence and ability to accomplish goals (Vuong, Brown-Welty, & Tracz, 2010). Participating in service-learning opportunities in turn enhances the personal growth and development of students, as well as helping them believe in themselves and their ability to succeed, during the course and into the future.

That the service-learning projects generally emphasized groupwork and collaboration also helped foster leadership skills among students. Other studies have similarly showed that community service projects with concrete experiences and active learning encourage students to develop leadership skills (Wurr & Hamilton, 2012). The results here corroborate the findings of Zapalska, Zieser, and Kelley (2016) who found that community projects and service-learning activities enabled students to better recognize and respond to community priorities and concerns and showed them how to generate solutions that might help address these concerns in the process. Students become more emotionally involved in their project by understanding such community needs and in co-discovering opportunities for resolving them, in many cases in active collaboration with community members. Student motivation to learn is enhanced as they work on a project from beginning to end, and they as they get practical experience in the process (Kenworthy-U'Ren & Peterson, 2005; Williams & Lankford, 1999). Yet, the learning and actions represented by these projects are also affirmed by the positive responses on the part of community members that are engaged in this journey.

Although few studies highlight much less focus on community partner experiences (Khalaf, 2017), these results demonstrate that community service-learning created mutual benefits for international students and rural communities alike, by providing opportunities for both to share experiences and values in a safe and positive environment. It is critical to better understand community partner perspectives, their perceptions about reciprocity and mutuality, and their project experiences (Omerikwa, 2012). As part of the course many members from the

Clearwater community and from the Harvest Moon Society identified projects that would be useful and achievable within the confines of the course, and in some cases helped manage and keep the projects on track. Working alongside community members and community instructors on these projects, further enriched the learning experience and in some cases resulted in friendships that persisted after the course was completed. All students were invited to the festival each year, which tended to occur 2-3 weeks after had driven the three hours back to Winnipeg, and some would return to Clearwater to see their projects "in action" in the real world.

Outdoor experiential learning represents an impressive learning method demonstrated by the feelings of students. Reflections allow international students to process what occurred during these experiences. In addition to working on throughout and submitting a critical reflection journal when the course is completed, participating in this research through the focus group discussions and the survey facilitated further reflection, in some cases many years after graduation. These reflections reveal an increased awareness of others, the ability to address challenges and an improved self-confidence on the part of many international students. Such self-reflection helps students better succeed in service-learning; it allows students to record their experiences and represents a powerful way to learn and maintain skills (Sanders, Van Oss, & McGeary, 2016). This self-reflection enables students evaluate and to respond to their learning, while also providing space for them to build confidence at their own rates and on their own terms (Lovat, & Clement, 2016). Based on self-reflection, international students found the Clearwater course and the experiential learning it embodies to be rewarding and worthwhile and many indicated their interest in taking other courses with similar approached to learning. They recommended this course to their peers as well as encouraging them to engage in similar learning opportunities, to the degree that there was generally a two-year waiting list for students to take this course.

These results indicated that international students often became more proficient and comfortable speaking in English and in experiencing Canadian culture because they had a safe

space to learn in the course. In encouraging students to have open and open-ended conversations, instructors created a comfortable and affirming environment that is necessary for "deep learning" and provided conversation starters that would help support students and that addressed any barriers to intercultural communication; such opportunities for going "off script" in their conversations often occurred around the fire or over beers and while playing cards inside late at night (Jacobi, 2021).

Most international students concurred that the Clearwater course encouraged students to communicate their own ideas; they also met new friends and built meaningful and, in some cases, longstanding friendships with other international students and with Canadian students too. When compared to other university courses, their skills in communicating in English improved substantially. When international students chatted with students from different cultures, they also felt more connected to and proud of their own cultures. Other studies (e.g. Campbell, 2012; Jacobi, 2018) have found that domestic-international student pairings often help international students feel more confident with their English-speaking skills. It also helps students learn about cultural difference and to build interpersonal relationships across cultural divides (Campbell, 2012; Greenland & Brown, 1999). That domestic students were actually a minority in this course changed the narrative such that they were also more likely to each out and to build bridges, further eroding the differences and barriers to intercultural communication. Students interacted at first with caution but by the end of this and other courses with genuine enthusiasm and meaning and in ways that are still evident and maintained many years later through social media (Arasaratnam, 2006; Gibson & Zhong, 2005).

4.4 Implications and Conclusions

Experiential education is a highly effective method of conveying knowledge to students in ways that link with and that are grounded in their own life experiences. Active learning can help students gain greater satisfaction and to perform better. Learning-by-doing encourages students to be more engaged in and to take responsibility for their own learning through direct

experiences and reflection (Bradberry & De Maio, 2019). A significant and growing number of Chinese students go abroad to study each year. They chose to do so because such experiences have many long-term impacts on and benefits for individuals, including more profound personal growth and development, advanced employment prospects and opportunities, improved educational performance, enhanced awareness on global issues, reformed worldview and value (Paige, Stallman, Jon, & LaBrack, 2009). These findings indicate that it is likely that the influence of experiential learning on Chinese students is more profound because of the effective absence of outdoor and experiential learning experiences in China. These findings support those of other studies such as Li and Chen, (2014), and Wang, Wu, and Wu, (2013), who argue that outdoor experiences play an important role in experiential education, especially for the international students who often lack such experiences, especially when raised in urban settings. This study shows that the Clearwater course provides students a number of significant advantages through active learning, such as developing critical thinking skills, collaboration and teamwork skills, language proficiency, and intercultural competence. Furthermore, international students gain new perspectives and understanding through service-learning, and student confidence, if often increased by working on projects, then benefits communities (Vuong, Brown-Welty, & Tracz, 2010).

We need to explore how to provide a better learning environment for international students to become proficient and comfortable speaking English because they need to have the opportunity and time to do it. Encouraging international students to communicate their own ideas and providing a supportive and safe learning environment can help bridge any hesitation or even fear of intercultural communication (Jacobi, 2021). Having international students share their thoughts, express their opinions, giving one another feedback, and fostering meaningful friendships with other international and Canadian students help students grow personally and become more connected to Canadian culture. Most of these activities help nurture skills in communication that can be used in any setting. Students interact with diverse others, enhancing

their intercultural competency and in ways that facilitate further communication and learning, (Arasaratnam, 2006; Campbell, 2012).

I have used the Clearwater course as a case study to explore the implications of experiential education and community service-learning for international students, especially for those from China. This work was collaborative in nature and was done in co-operation with and used feedback from the many participants in the course. The results are inherently important as they represent an effective model of how to reach out to and engage with international students in their learning journeys. But they can also be used to refine and improve student and other participant experiences and interest in this course. They can also be used to address the unique characteristics and experiences of many Chinese students. The education system in China has generally not emphasized the importance of experiential learning and service-learning, and thus Chinese students have had little opportunity to gain insight into its importance. Even when they come to pursue degrees in Canada, these opportunities are in short supply. Due to the great numbers of the Chinese students who have taken the course, these results help us better understand the unique experiences of Chinese and other international students in this and other experiential or environment courses, and to promote their importance within the larger university system. In so doing, the results of this study help us maintain and strengthen learning and networks between past international students and other students as well as instructors and community members alike.

5. ATTITUDE AND BEHAVIOURS IMPACTS FOR INTERNATIONAL STUDENTS

Abstract

This chapter explores how and to what degree attitude and behaviours of international students, especially those from China, are affected by an intensive experiential learning course. The results are based on focus group interviews and online questionnaires with international students who have taken the experiential university course since 2006. The results demonstrate that students were more likely to see where their food comes from, and they had more trust in locally produced food because they know the origins of and better appreciate the flavour and freshness of local food. As a result of taking the course, students thought that locally produced food is more sustainable than internationally grown food, and that organic food production also plays an important role as part of a much more dynamic and sustainable food system. Additionally, Chinese students had meaningful interactions with Indigenous people during the course, often for the first time, which changed their attitudes towards Indigenous people and the issues that they face. These insights and the practical skills learned through this course are long-standing in nature and in many cases persist many years later. Those results help us better understand the unique experiences of Chinese and other international students and how such experiences have impacted and continue to impact on student attitudes and behaviours regarding food, rural communities, and Indigenous people.

5.1 Introduction

It is generally believed that perceptions about the environment influence how often and to what degree individuals take pro-environmental measures during their daily lives (Marcinkowski & Reid, 2019). Some researchers argued that only raising knowledge does not, in-of-itself, result in changing behaviours (Kollmuss & Agyeman, 2002; Schultz, 2002; Steg & Vlek, 2009). Although attitude has frequently been adopted as a general and summative concept to express an individual's feelings and thoughts about something, an individual's expectations about the results

or behavioural expectations and their evaluations also determine attitudes (Ajzen & Fishbein, 2005). Kricsfalusy, George, and Reed (2018) analyzed the impact of a field course and found that students observe activities that are harmful to the environment, but at the same time, they had to take account of how their advice would impact the lives of local people and communities. Connecting with community, taking time to visit their farms and eating special local food help students better understand how culture impacts sustainability on environmental, social and economic dimensions. Students stated that "in-place" learning skills opened them to community needs and challenged their understanding of complicated sustainability problems in the final assessment of this field course.

One of the key reasons that people buy local foods is their greater flavour and freshness (Pearson et al., 2011). Freshness is the primary factor that motivates purchases of local food products by urban consumers (Khan & Prior, 2010). Wolf, Spittler and Ahern (2005) found that consumers think that local products look fresher and taste fresher. Customers also purchase locally produced food for social reasons and believe that they help local farmers and rural communities by purchasing locally produced food (Pearson & Bailey, 2009; Pearson et al., 2011). Most (75%) consumers in the US purchase local food at direct markets or in traditional grocery stores, which helps the local economy (Food Marketing Institute, 2009). Public perception of locally grown food products has been influenced by the adverse environmental effect of global production and transportation of foods. Consumers think that local food is more environmentally friendly and healthy (Pearson & Bailey, 2009; Born & Purcell, 2006; Pearson et al., 2011). Many (35%) of US consumers purchase locally produced food at direct markets or traditional grocery stores in order to better mitigate these adverse environmental effects (Food Marketing Institute, 2009).

Knowing the origin of food is considered a quality characteristic. Usually, the regional origin is believed to provide producers and consumers with social, economic, environmental, and health benefits (Delind, 2006). Consumers have more trust in locally produced food because they

know the origin and, in some cases, know the growers themselves (Pearson & Bailey, 2009; Pearson et al., 2011). Consumers ought to feel a connection to the food they eat, which is also a major challenge faced by marketing strategies (Hingley, Boone, & Haley, 2010). Generally speaking, consumers think that local food is healthier than non-local food. Local food networks may provide advantages to personal health because they improve the availability and variety of seasonal foods and may prompt the purchase of fresher and less processed foods (Pearson et al., 2011). A growing antipathy towards "industrialized" conventional food is the last motivation for people to purchase local food. Consumers purchase local food and products because of its greater authenticity (not being related to mass production) (Pearson et al., 2011). The increasing attention to product authenticity has raised the need for local food production and effective distribution networks (Teuber, 2011).

The literature also explains why many consumers do not buy locally produced food products. Higher prices for local food are a crucial factor. “An obvious obstacle for local food is the perceived price premium” (Hingley, Boone, & Haley, 2010, p. 195). Khan and Prior (2010) discussed barriers that prevent urban consumers from buying locally produced food. The higher (perceived) price was the major barrier. In a study that intended to increase the popularity of local food and bring local food out of the niche market, Little, Maye, and Ilbery (2010) showed the ability to pay was one of the obstacles to making local food more acceptable. Because of seasonal restrictions and reduced accessibility, local foods may also be hard to find and more expensive to purchase than conventional foods (Hardesty, 2008). The second barrier for locally produced food is the limited opportunities for accessing local food, in part because locally produced food is not available in grocery stores – especially in global retail chains (Khan & Prior, 2010; Little, Maye, & Ilbery, 2010).

Organic food production forms part of a much more dynamic sustainable consumption and strengthens a modern model of consumption known as green marketing (Bryła, 2016). Organic food is generally considered to be sustainable, healthy, and as tasting better than regular

conventionally grown food (Gottschalk & Leistner, 2013). Studies show that environmental concerns have a notable impact on consumer purchase choices (Bryła, 2016; Hansen, Sørensen, & Eriksen, 2018; Janssen, 2018; Smith & Paladino, 2010; Yadav & Pathak, 2016). Accordingly, people who have a higher level of environmental concern are likely to buy sustainable food products (Kushwah, Dhir, & Sagar, 2019). In contrast to conventional alternatives, organic food is seen as environmentally safe because of the absence of synthetic fertilizers, pesticides and growth hormones (Çabuk, Tanrikulu, & Gelibolu, 2014; Essoussi & Zahaf, 2008). In addition, environmental concern contributes to higher inclinations and choices for green products (Lin & Huang, 2012). Therefore, environmental concerns are seen as giving rise to consumer preferences for organic food (Kushwah, Dhir, & Sagar, 2019). Although locally produced and organic are widely seen as important alternatives for consumers, there is little insight into or recognition of the importance of Indigenous food systems, and the role that colonialism historically played in erasing or otherwise marginalizing these systems and the cultures that gave rise to them.

Across Canada, there are longstanding tensions between Indigenous people and non-Indigenous settlers, and it is widely accepted that Indigenous people suffer greater discrimination than other cultures (Environics Institute, 2010). Social discrimination towards minority groups is also visible in China, for example, toward the Muslim minorities. Ethnographic studies argue that Muslims are commonly seen as exotic and less educated (Gladney, 2004, p. 262), and Uyghur Muslims are unreasonable, primitive, and criminal, indicating by Han respondents (Cliff, 2012; Kaltman, 2007, Chapter 3). These tensions are especially evident in 2010, most (71%) urban Indigenous people stated that they were seen in a negative way, and primarily viewed as drug users, lazy or unintelligent by other urban dwellers across Canada (Environics Institute, 2010, p. 73). For example, the Urban Aboriginal Peoples Study-Winnipeg report reveals that Indigenous peoples agree that non-Indigenous citizens have a wide variety of negative stereotypes that act to invisible and perpetuate prejudice toward Indigenous people in Winnipeg

and elsewhere in Manitoba (Environics Institute, 2011). Although such racism is structural and systemic in nature and best addressed through legal means and changes in policy, meaningful personal relationships with Indigenous peoples can also play a critical role in mitigating such racist attitudes (Lashta, Berdahl, & Walker, 2016). Such relationships between non-Indigenous and Indigenous peoples are required for change instead of the segregated neighbourhoods and co-location that still occur in many urban areas. However, the increasing size of Indigenous urban populations in the Western provinces of Canada, the increased cultural and racial diversity of urban centres in this part of the country because of the influx of newcomers, and a rise in interpersonal interaction in prairie cities have not led to a decrease in racial attitudes toward Indigenous peoples (Lashta, Berdahl, & Walker, 2016). If anything such attitudes are on the increase, other solutions are needed, ones that revolve around public and formal education. Such changes in the education system are starting to take place at all levels, from early school to the university, and ultimately hold the greatest promise for longstanding change.

Bradberry and De Maio (2019) highlight the long-term impact of experiential learning for behavioural change and show that experiential learning programs result in meaningful increases in graduate rates, employment outcomes, and the development of related skills that are applicable to potential career success. Additionally, they argued that the experiential programs provide "*external motivation for students to stay on track; positive peer influence, camaraderie, and support and mentorship from faculty coordinators, judges, diplomats, and other professionals, all of which students are less likely to receive in a traditional classroom setting*" (Bradberry & De Maio, 2019, p. 103). The impact of experiential learning programs helps students with skills improvement, including advanced communication, problem-solving, collaboration, and cross-cultural fluency (Arasaratnam, 2006; Coker, Heiser, Taylor, & Book, 2017; Goralnik & Nelson, 2017; Thiry, Laursen, & Hunter, 2011). A case study conducted at Marquette University also represented that experiential learning activities have influenced students' awareness of social issues and impacted change in socially responsible behaviours in

the long-term as a result of increased social awareness (Caulfield & Woods, 2013). Yet the role of such programmes in shaping attitudes and behaviours towards the environment and towards the rights of black, Indigenous and other people of colour (BIPOC) has yet to be explored.

In this chapter, the research goal is to explore how and to what degree attitudes and behaviours for international students, especially those from China, are affected by an intensive experiential learning course. The objectives of this chapter are to assess: i) how attitudes changed regarding food, rural community, and Indigenous people; ii) to what degree these changes in attitude resulted in changed behaviours; iii) how these attitudes and behaviours varied according to education; and iv) to document any long-lasting effects of this Clearwater course on these international students.

5.2 Results

5.2.1 Attitude

5.2.1.1 Food

The overall goal of the Clearwater course was to promote the importance of all farmers, regardless of their production practices and worldviews. Thus, students were exposed to a wide diversity of farming practices and farmer attitudes towards the global food system as well as organic and local food production. Many (87.69%) participants felt that "*farmers play a vital role in society as producers of food*" (x=5.95, 0.15) (Table 9). The majority (89.23%) of participants indicated that "*I became more aware of the importance of rural communities after taking the course*" (x=5.94, SE=0,15) (Table 9). Most (84.62%) participants also concurred that "*I became more aware of the importance of farmers immediately after taking the course*" (x=5.89, SE=0.14) (Table 9).

As over 90% of participants indicated that the course helped them understand more about the food system (x=5.86, SE=0.14) (Table 10). Students visited farms with a wide diversity production practices, and in process became more familiar with a food system that integrates food production, processing, distribution, consumption. The majority (84.62%) participants also

thought that the course made them more aware of the food they personally eat (x=5.72, SE=0.14) (Table 10); moreover, most (81.54%) participants agreed that "*I am more likely to look to see where my food comes from because of this course*" (x=5.51, SE=0.13) (Table 10). One focus group female participant then indicated that she would be more likely to consider local or organic foods,

> "*In the past, I usually did not pay attention to the origin of food, only to the price, and would pick the cheaper one when finding no difference. After this class, I will pay more attention to whether the food is organic or local, as the food I tasted on the farm is indeed different from the ones we bought from the grocery stores.*"
>
> FG4, 2017

Table 9. Students attitudes towards farming, food and the environment

	Mean	**N**	**SE**	+	-
Today, I still feel that farmers play a vital role in society as producers of food	5.95	65	0.15	87.69	1.54
I became more aware of the importance of rural communities after taking the course	5.94	65	0.15	89.23	0.00
I became more aware of the importance of farmers immediately after taking the course	5.89	65	0.14	84.62	1.54
Pesticides using in farming system have adverse impacts on human health.	5.06	65	0.12	63.08	9.23
The health of farmers is negatively affected by their use of pesticides	4.77	65	0.11	55.38	12.31
I feel genetically modified (GM) food has adverse impacts on the environment health	4.63	65	0.11	44.62	4.62
I feel genetically modified (GM) food has adverse impacts on the human health	4.37	65	0.11	38.46	7.69
My attitudes towards pesticides became more positive after taking the course	4.32	65	0.11	44.62	21.54

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

Although students became more aware of the important of rural communities and famers after taking the course, attitudes to local food, organic food, GM crops and pesticides are controversial

and pre-existing, and these are unlikely to change or hard to change.

Local foods were sometimes seen by students as tasting better and being healthier for people than foods that are grown, stored and imported thousands of miles away. However, they were also perceived as being relatively expensive and sometimes limited in their diversity. One female focus group participant pointed out that local food is good in quality but has a higher price,

> *"The freshness of local food, to me, is more important. The quality of food is also very important. Even though we can't buy every kind of fresh vegetables and fruits because they are very expensive, I would choose to buy some and cook at home."*
>
> FG2, 2018

One of the major benefits of eating organic food is lower levels of synthetic pesticides in that growers only use natural derived pesticides. Organic farming was often seen as environmentally friendly, healthy, and sustainable. On the other hand, organic food was seen as being more expensive. One male focus group participant indicated that organic farming has positive impact on environment,

> "*My attitude to organic food is changed neither for money nor for health. I found that organic farming and non-organic farming have a very different or even huge impacts on the environment. The greatest difficulty with organic agriculture is the high cost that causes the higher sale price. Many people don't know the (reduced) impact of organic farming on the environment, so I know they won't pay for it. We went to Swan Lake and saw that their eutrophication was still very serious. If they had organic farming, the impact on the environment would be smaller. Please give more support to organic products, not just for our health but also for the environment and future.*"
>
> FG3, 2017

There is controversy in the current discussion on the impact of GMOs on health and the environment. One female focus group participant suggested that they become more accepting of the technology as they heard some local farmers talk about its benefits,

> "*I am not against eating GM food after this course. Because if there is no GM food, there will be no such large production to support the demand. GM crops also help a reduction in pesticide use and greenhouse gas emissions. Yet, many food safety advocates point out that no long-term studies have ever been conducted to confirm the safety of GMO use.*"
>
> FG2, 2018

Over 60% of participants believed that "*pesticides using in farming system have adverse impacts on human health*" (x=5.06, SE=0.12) (Table 9). One survey respondent recognized that pesticides could have adverse impacts on both environments and farmer health,

> "*First of all, in my view, to help the environment become healthier, pesticides should be used less in a farming system. The health of farmers is negatively affected by their use of pesticides*. *Secondly, we should keep rural communities and farmers positive and help them to plant healthy and sustainable food products*."
>
> Survey# 9, 2017

Table 10. Students attitudes towards food

	Mean	N	SE	+	-
The course helped me understand more about the food system.	5.86	65	0.14	90.77	1.54
I now know more about traditional Indigenous (Aboriginal) food systems because of this course	5.78	65	0.14	87.69	1.54
The course made me more aware of the food I personally eat	5.72	65	0.14	84.62	1.54
This course was designed in ways that help build awareness around the needs of farmers and rural communities.	5.54	65	0.13	89.23	3.08
I am more likely to think about the farmers and others who grow my food because of this course	5.54	65	0.13	84.62	3.08
I am more likely to look to see where my food comes from because of this course	5.51	65	0.13	81.54	12.31
Immediately after taking this course, I was more likely to look to see where my food comes from	5.45	65	0.13	80.00	9.23
I do what I can as a consumer to change the food system	5.15	65	0.12	70.77	3.08
I was already aware of food and food system before taking this course	4.46	65	0.11	47.69	27.69
The course has had no meaningful effect on the way that I view the food that I eat	3.58	65	0.10	27.69	49.23

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

5.2.1.2 Rural Community

As mentioned above many participants concluded that farmers play a vital role as producers of food. A male focus group participant indicated that farmers are important to everyone,

> "*Responsibility and commitment go way beyond their farms, crops and livestock, and many are passionate agriculture advocates who were playing vital roles in their communities and society. I believe that farmers have the power to shape and change our society, indeed our futures*."

FG 3, 2018

Most (84.62%) participants agreed that "*I am more likely to think about the farmers and others who grow my food because of this course*" (x=5.54, SE=0.13) (Table 10). Students also expressed their opinions that agriculture needs to change to become more sustainable and productive in the future to address any of its existing environmental and health impacts,

> "*I think the most important way is to use natural pesticides instead of chemical pesticides. This kind of sustainable farming method is much safer and healthier for farmers, consumers, and the environment, as using natural pesticides helps to decrease pollutants in waterways*."

Survey# 45, 2018

Many (89.23%) participants concurred that *"this course was designed in ways that help build awareness around the needs of farmers and rural communities*" (x=5.54, SE=0.13) (Table 10). As a survey respondent recognized that the needs of farmers were overlooked by industry and governments alike,

> "*I think the methods of growing crops are advanced. But the income balance between farmers and agricultural corporations is not fair. The latter blocks information for the public. We need to figure out some valuable solutions to benefit farmers and reinforce the popularization of agricultural knowledge*."

Survey# 30, 2016

A community instructor also indicated how important this course is to locals,

> "*The community misses those students... like they really do. I know they're different students every year, but it's like a collective. It has its own energy that class when it comes out. But, just having that volume of young people come into the community. Seeking knowledge about who we are and what we do. And kind of what makes us tick as a rural community and what we like to do. What our frustrations, the anxieties, that type of thing. People that are interested in us. And that is huge for*

the community. Huge, huge, huge, huge!"

Jo-lene Gardiner, Community instructor

Students argued that they are more understand the significance of rural communities and farmers after taking this course. Rural communities were seen as making significant contributions to economic growth, as a primary source for inexpensive and safe food but also as they provided affordable energy, clean drinking water and important recreational opportunities for urban residents.

5.2.1.3 Indigenous People

In general, international students are not familiar with Canadian culture and their history, and they know even less about Indigenous issues and cultures. Thus, almost half of participants disagreed (46.15% vs. 10.77%) with the statement that "*I already had a good understanding of issues facing Indigenous (Aboriginal) before taking this course*" (Table 11). As a result, most (86.15%) participants believed that they had a better understanding regarding the issues faced by Indigenous people as a result of taking this course (x=5.68, SE=0.14) (Table 11). A male focus group participant indicated that students have many interactions with Indigenous people in this course,

"*These days, we had a lot of interaction with the Indigenous community, and we have realized a lot about their history and their unfair experiences."*

FG1, 2018



Figure 13. Drumming and dancing in Swan Lake First Nation (Photo credit: Stephane McLachlan, 2017)

Some participants explicitly identified the impacts that settlement has had on Indigenous communities,

> "*As international students, we are not familiar with Canadian history. For us, we are impressed a lot by their history. They gradually benefited from the Indigenous people as a tribe becoming the first generation of residents in Canada. Then these peoples experienced oppression and racial discrimination under the colonization of white settlers."*
>
> FG4, 2017

Generally speaking, many newcomers – including international students – rapidly absorb the negative and even racist attitudes towards Indigenous people that are so ubiquitous in Canada. During some of the large group discussions, stereotypes about Indigenous people as poor, dysfunctional and even lazy were widespread. It is thus unsurprising that such attitudes persisted despite opportunities to learn from Elders over the 10 days. A male focus group participant described his negative attitude towards Indigenous people,

> "*I did not feel at all sympathetic towards Indigenous people. They kept saying that white settlers colonized them, and they were oppressed in their history. They are poor people to some extent, and the long-lasting negative effects can still be found. They were abused and suffering on some levels for sure, but they have exaggerated these."*
>
> FG1, 2018

Yet at least some participants also indicated that their attitudes towards Indigenous people and the issues they face were affected and that they became more understanding and tolerant in the process. One female focus group participant changed her attitude towards Indigenous people because of opportunities to learn from an Indigenous guest speaker,

> "*My previous impressions of Indigenous people were based on the poverty found in the inner city area. But I thought that they were not that bad after knowing them in these past few days. I remembered an Indigenous woman who was talking about Indigenous food sovereignty, and she talked emotionally. She talked about it from history and the origin. She impressed me emotionally, and they really love their people, land and culture."*
>
> FG2, 2017

As a community instructor also indicated, meaningful relationships with Indigenous peoples can also play a critical role in mitigating such racist attitudes,

> *"I think the more people can meet and get to know people from another culture, the less stereotypes, the less prejudice and discrimination and all those kinds of negatives."*
>
> Minnie Guilford, Community instructor

Over half (56.92%) of the participants cared more about the injustice that Indigenous (Aboriginal) people face as a result of taking this course (x=4.78, SE=0.11) (Table 11). Some spoke to the oppression and marginalization that they experience as a people,

"*Indigenous People are more likely to be poor. While there have been advances, Indigenous Peoples continue to face exclusion and marginalization, and lack equal access to basic services. After this course, it reminds us just how big the challenge remains to secure Indigenous People's basic rights and make sure they are included in the development process, so they have the opportunity to live safer, healthier, and more prosperous lives*."

Survey# 55, 2017

Yet most (80%) at least somewhat agreed that "*Indigenous people should do more to help themselves*" (x=5.51, SE=0.13) (Table 11) in part by taking responsibility for their own futures. A female focus group participant identified that Indigenous people need to find ways to help themselves,

"*The most important thing for Indigenous People is to learn how to change themselves while also retaining their traditional culture*."

FG3, 2017

Table 11. Students attitude toward social justice and Indigenous (Aboriginal) People in Canada

	Mean	**N**	**SE**	+	-
I have a better understanding regarding the issues faced by Indigenous (Aboriginal) people as a result of taking this course	5.68	65	0.14	86.15	0.00
Indigenous people should do more to help themselves	5.51	65	0.13	80.00	4.62
This course was designed in ways that would help build awareness around the needs of Indigenous communities	5.28	65	0.13	76.92	3.08
I feel that this course had a meaningful benefit for those Indigenous communities who are involved	5.18	65	0.12	78.46	3.08
Indigenous people are their own worst enemy	4.86	65	0.12	66.15	12.31
I care more about the injustice that Indigenous (Aboriginal) people face as a result of taking this course	4.78	65	0.11	56.92	3.08

The injustice that faces Indigenous (Aboriginal) people is exaggerated	4.66	65	0.11	55.38	10.77
The injustice that faces Indigenous people has been highlighted in many of my university courses	4.57	65	0.11	56.92	12.31
I feel that Indigenous issues received too much attention in this course	4.52	65	0.11	50.77	15.38
Indigenous (Aboriginal) people face substantial social injustice in Canada	4.37	65	0.11	50.77	21.54
I feel that all students at the University of Manitoba should take a mandatory course regarding the past and present social injustice faced by Indigenous (Aboriginal) people	4.28	65	0.11	52.31	13.85
My attitude towards Indigenous (Aboriginal) people was unchanged as a result of taking this course	3.82	65	0.10	36.92	41.54
I already had a good understanding of issues facing Indigenous (Aboriginal) before taking this course	3.18	65	0.10	10.77	46.15

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

5.2.2 Changing Behaviours

5.2.2.1 Food Purchases

Overall, participants were far more willing to pay a premium for locally produced food as a result of taking the course (Fig 14). Thus, prior to the course the majority (69%) of participants were willing to pay little if anything extra for local food, 17% paying no extra cost and 52% being willing to only pay 1-10% more than for non-local food. After the course, the percentage of students being unwilling to pay any premium for local foods had declined to 3% and those only willing to pay a 1-10% premium declined to 26%. Interestingly the proportion of students willing to pay a 11-20% premium for local food increased from 6% to 35% as a result of taking the course (Fig 14). Some survey respondents indicated a substantial interest in purchasing local foods,

> "*I will buy locally produced food wherever possible and buy more local products from farmer market during the summer. I am interested in eating locally produced*

food products meanwhile support local farmers and local communities."

Survey# 29, 2013

Locally grown food was seen as helping ensure that money remained within the local economy. It was also seen as creating meaningful economic opportunities and profits, providing health benefits and helping decrease adverse environmental influence.

Similarly, students were more also more willing to pay a premium for organic food as a function of taking the course. Those unwilling to pay any premium for organics declines from 20% to 3% while those only willing to pay a 1-10% premium decline from 45% to 29%. As with local foods, those willing to pay a higher premium increased, this even higher for organic than for local food. Thus, those willing to pay a 21-30% for organics increased from 6% to 23% as a function of taking the course (Fig 15). As one female respondent to the questionnaire indicated, willingness to pay this premium often had to do with the environmental and health benefits associated with organic foods,

"*I would consider buying organic foods over non-organic foods now. Since I understand organic farming is better for the environment after this course. In terms of personal aspect, organic produce contains fewer pesticides, natural fertilizers that are healthier*."

Survey# 39, 2015

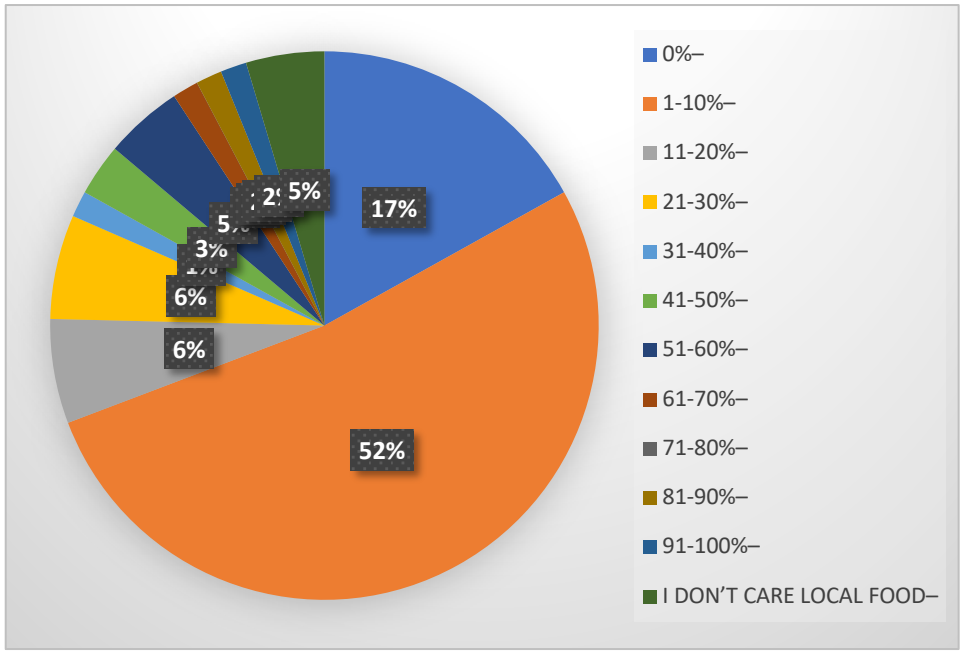


Figure 14(a). Student willingness to pay for locally produced food, compared to non-local food before taking the course

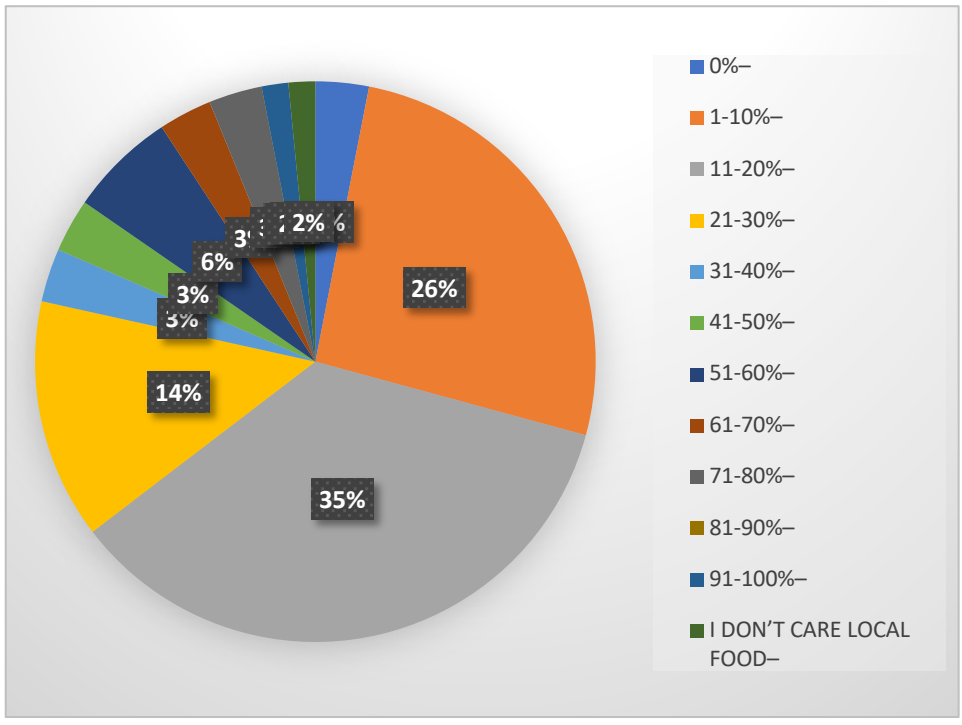


Figure 14(b). Student willingness to pay for locally produced food, compared to non-local food after taking the course

Note: Local in this case usually refers to the state or province or sometimes even the country in which one resides

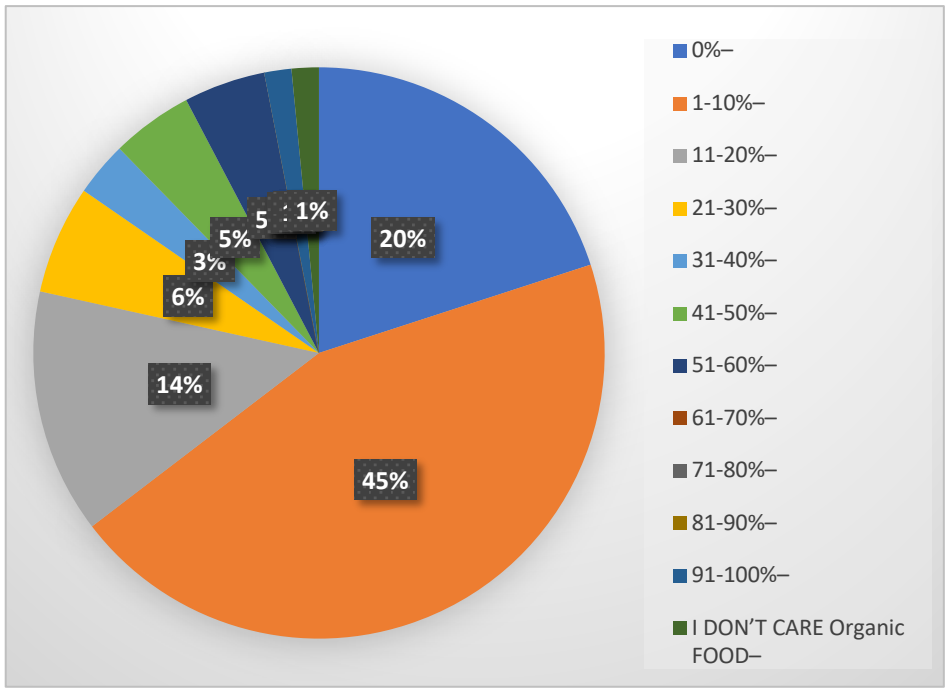


Figure 15(a). Student willingness to pay for organic food, compared to non-organic food before the course

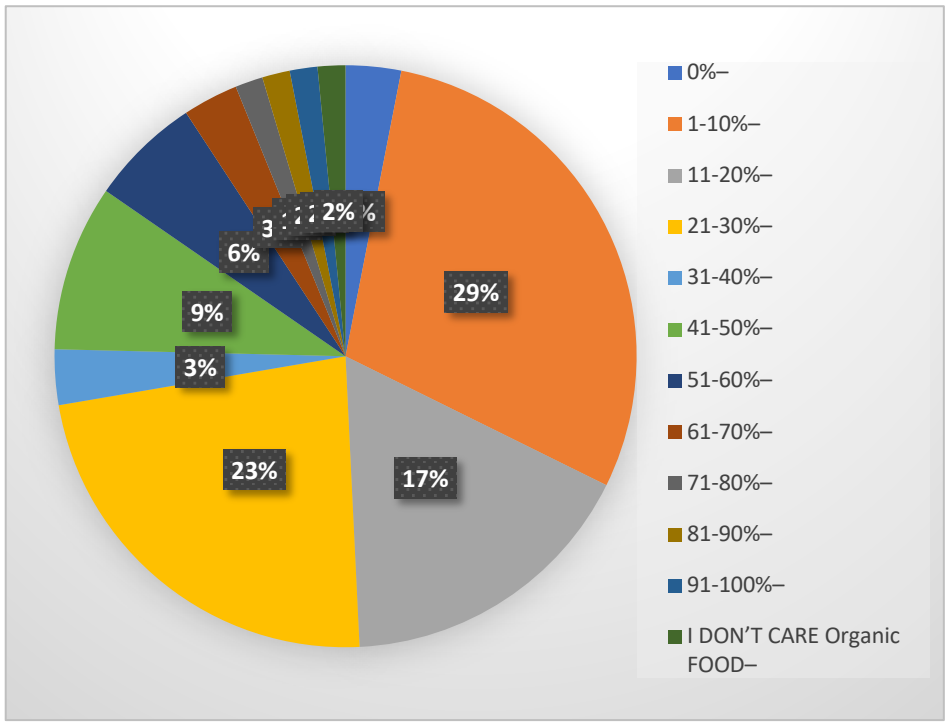


Figure 15(b). Student willingness to pay for organic food, compared to non-organic food after taking the course

5.2.2.2 Food Habits and Food Preparations

Cultural influences lead to differences in the consumption of certain foods and in traditions of preparation. And in certain cases, these led to restrictions such as exclusion of meat (or certain meats including pork) and milk from the diet. A female focus group participant identified choices of food represent different cultures,

> "*Food is much more than sustenance. It is an active cultural force that defines groups of people in their choices to consume, reject, or reform both food and the ways in which it is produced*."
>
> FG4, 2017

Culture influences food perception through various filters including tradition, religion and family. These filters or worldviews lead to a diversity of responses to food which in turn can influence what and the way people eat. Such preferences accumulate over a lifetime and thus are often difficult to change, especially over a 10-day period. That said, many students did indicate that their food preferences had been changed by the course.

Eating habits or behaviours could also be a reflection of or even serve to strengthen relationships among people since food preparation and consumption is an inherently social process. For example, a male focus group participant described, students offered one another food especially across cultures, their relationships became closer and acted to help build bridges across cultural divides,

> "*After I came here, the course gave me another idea of viewing food. These past few days, I met many people from different countries and cultures, and I knew how they handled food differently. Food became a connection between them. It seemed like a linkage. For example, Chinese students cooked some Chinese dishes for the local people, Canadian students and other international students. They could talk about those dishes, see what each other likes and dislikes, or they could discuss different recipes and diverse flavours. So, I think it was very meaningful to*

international students, local people, and other Canadian students, as the way created a linkage between them."

FG3, 2018

As community instructors also indicated - food is an important medium for communication,

"Whether they're in the same language or not, it's that communication piece. That is the most important and it's very exciting to learn the cultural aspects of that [Chinese] *hot pot. I love that.*

Minnie Guilford, Community instructor

Things especially around food. Food is a wonderful medium for communication because when you want to know about something and people enjoy your food, they find the words. They find a way to express it….."

Sven Conquist, Community instructor

Food technology has provided everyone with an abundance of convenience and prepared foods. Some kitchen appliances, like microwave ovens, have reduced the time spent in the kitchen. All of these innovations have changed the way food is prepared, cooked and eaten, perhaps simplifying food preparation on one hand but complicating the food choices on the other. Although many participants indicated that they generally had less time to cook their meals, they would actually spend more time cooking their food in the evenings when they got back to the school Participants also expressed that they lacked cooking skills and any confidence about their cooking ability. Furthermore, A female focus group participant indicated that their increased awareness of food and the food system that they had previously taken for granted, better enables them to make healthier food choices in their lives during and after the course,

"*Home cooking today is far different from what I remembered as a child. Time spent preparing home-cooked meals has decreased as I usually eat at restaurants or order take-out food, and I also have choices like fast food and semi-processed food. I do not have much time to cook my meals because I am pretty busy, and I'm*

not good at cooking. However, I will now cook more meals at home either to save money or to prepare my meals with healthy ingredients as I have an increased awareness of healthy food choices because of this course. I believe my cooking skills can be improved with more time and effort."

FG2, 2017

5.2.3 Differences Related to Educational Background

Attitudes towards food in students from the Faculty of Environment were quite similar with those of students registered in other faculties, although some differences did exist (Table 12). Participants from other faculties indicated that they "*knew more about traditional Indigenous (Aboriginal) food systems because of this course*" (x_2=5.86, SE=0.25) as many students in the Faculty of Environment are required to take courses in Native Studies at university. Thus, one male student in the Faculty of Arts (Economics) indicated,

"*My major is economics, and I did not really know anything about Indigenous people before this course. Over the past few days, Indigenous guest speakers talked about Indigenous food sovereignty, the relationships they have with food, and the importance of traditional foods. This course allowed me to better know about Indigenous people and Indigenous food systems*."

FG4, 2018

Moreover, students from the Faculty of the Environment were much less likely to agree that "the course has had no meaningful effect on the way that I view the food that I eat" (17.86% vs. 35.14%; x_1=3.46, x_2=3.68).

More participants from Faculty of Environment were also more likely to agree that their attitudes towards GM foods had become more positive or at least more nuanced, likely because of the many farmers they had encountered that used this technology (57.14% vs. 41.35%; x_1=4.86, x_2=4.56). Thus, a survey respondent from the Faculty of Environment spoke to how the course had affected their attitudes towards GM crops and foods,

"*As an environment student I had a better understanding of GM food after I took the Clearwater course. In the past 20 years, the cultivation of GM crops has helped farmers cut pesticide use while increasing crop yields. GM-based farming practices have allowed farmers to grow more food while using fewer resources, including many natural, non-replaceable resources such as air, soil and water. The enhanced traits of genetically modified plants make the crops hardier, allowing farmers to be more environmentally friendly in their production practices*."

Survey# 33, 2018

Table 12(a). Attitudes towards food expressed by international students registered in the Faculty of Environment at the University of Manitoba

Faculty of Environment & Geography(X_1)	**Mean**	**N**	**SE**	**+**	**-**
The course helped me understand more about the food system.	5.93	28	0.34	89.29	0.00
The course made me more aware of the food I personally eat.	5.82	28	0.33	85.71	0.00
Immediately after taking this course, I was more likely to look to see where my food comes from	5.71	28	0.32	85.71	7.14
I now know more about traditional Indigenous (Aboriginal) food systems because of this course	5.68	28	0.32	85.71	3.57
I am more likely to look to see where my food comes from because of this course	5.57	28	0.31	82.14	10.71
I am more likely to think about the farmers and others who grow my food because of this course	5.57	28	0.31	89.29	3.57
I do what I can as a consumer to change the food system	5.18	28	0.29	71.43	7.14
My attitudes towards GM food became more positive after taking this course	4.86	28	0.26	57.14	3.57
I was already aware of food and the food system before taking this course	4.82	28	0.27	57.14	17.86
The course has had no meaningful effect on the way that I view the food that I eat	3.46	28	0.23	17.86	50.00

Table 12(b). Attitudes towards food expressed by international students registered other faculties at the University of Manitoba

Other Faculties(X_2)	**Mean**	**N**	**SE**	**+**	**-**
I now know more about traditional Indigenous (Aboriginal) food systems because of this course	5.86	37	0.25	89.19	0.00
The course helped me understand more about the food system.	5.81	37	0.25	91.89	2.70
The course made me more aware of the food I personally eat.	5.65	37	0.24	83.78	2.70
I am more likely to think about the farmers and others who grow my food because of this course	5.51	37	0.23	81.08	2.70
I am more likely to look to see where my food comes from because of this course	5.46	37	0.23	81.08	13.51
Immediately after taking this course, I was more likely to look to see where my food comes from	5.24	37	0.22	75.68	10.81
I do what I can as a consumer to change the food system	5.14	37	0.22	70.27	0.00
My attitudes towards GM food became more positive after taking this course	4.56	37	0.20	41.35	20.81
I was already aware of food and the food system before taking this course	4.19	37	0.18	40.54	35.14
The course has had no meaningful effect on the way that I view the food that I eat.	3.68	37	0.18	35.14	48.65

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

Attitudes towards toward social justice and Indigenous people reflected by students from the Faculty of Environment were quite similar with those of students registered in other faculties, although some differences did exist (Table 13). More students from the Faculty of Environment and other faculties felt that "*they have a better understanding regarding the issues faced by Indigenous (Aboriginal) people as a result of taking this course*" (96.43% vs. 78.38%; x_1=6.07, x_2=5.38). Moreover, those from the Faculty of Environment were more likely to agree that "*my attitude towards Indigenous (Aboriginal) people was changed as a result of taking this course*" (51.43% vs. 37.84%; x_1=3.71, x_2=3.89). One survey respondent registered in the Faculty of

Environment indicates how their attitudes towards Indigenous people had been affected by the course despite having already taken another course in Native Studies and was deeply moved by their personal stories,

> "*I had taken a course in Native Studies, and I was aware that Indigenous people had experienced colonization and government assimilation, which has impacted all aspects of Indigenous people's lives. After the Clearwater course, my attitude towards Indigenous people was more positive. Those Indigenous guest speakers told us their stories, which impressed me deeply. Generally speaking, with changes in their behaviour and the improvement of their education, non-Indigenous people's attitudes and understanding of Indigenous people would change*."
>
> Survey# 20, 2016

Table 13(a). Faculty of Environment & Geography students' attitude toward social justice and Indigenous (Aboriginal) people in Canada

Faculty of Environment & Geography(X_1)	**Mean**	**N**	**SE**	**+**	**-**
I have a better understanding regarding the issues faced by Indigenous (Aboriginal) people as a result of taking this course	6.07	28	0.35	96.43	0.00
Indigenous people should do more to help themselves	5.57	28	0.31	78.57	7.14
I feel that this course had a meaningful benefit for those Indigenous communities who are involved	5.50	28	0.31	85.71	0.00
This course was designed in ways that would help build awareness around the needs of Indigenous communities	5.46	28	0.30	85.71	0.00
Indigenous people are their own worst enemy	5.18	28	0.29	67.86	14.29
I now care more about the injustice that Indigenous (Aboriginal) people face as a result of taking this course	4.75	28	0.26	50.00	0.00
I already had a good understanding of issues facing Indigenous (Aboriginal) before taking this course	4.61	28	0.26	57.14	25.00
Indigenous (Aboriginal) people face substantial social injustice in Canada	4.54	28	0.25	53.57	17.86

My attitude towards Indigenous (Aboriginal) people was changed as a result of taking this course	3.71	28	0.23	51.43	27.14

Table 13(b). Other faculties students' attitude toward social justice and Indigenous (Aboriginal) people in Canada

Other Faculties(X_2)	**Mean**	**N**	**SE**	+	-
Indigenous people should do more to help themselves	5.46	37	0.23	81.08	2.70
I have a better understanding regarding the issues faced by Indigenous (Aboriginal) people as a result of taking this course	5.38	37	0.23	78.38	0.00
This course was designed in ways that would help build awareness around the needs of Indigenous communities	5.14	37	0.22	70.27	5.41
I feel that this course had a meaningful benefit for those Indigenous communities who are involved	4.95	37	0.21	72.97	5.41
I now care more about the injustice that Indigenous (Aboriginal) people face as a result of taking this course	4.81	37	0.20	62.16	5.41
Indigenous people are their own worst enemy	4.62	37	0.20	64.86	10.81
Indigenous (Aboriginal) people face substantial social injustice in Canada	4.24	37	0.18	48.65	24.32
My attitude towards Indigenous (Aboriginal) people was changed as a result of taking this course	3.89	37	0.18	37.84	40.54
I already had a good understanding of issues facing Indigenous (Aboriginal) before taking this course	3.68	37	0.18	43.24	29.73

*1= Strongly Disagree, 7=Strongly Agree, neutral values eliminated for proportion calculation; SE: standard error

5.2.4 Long-lasting Effects

Experiential Learning is the process of learning-by-doing. Many participants indicated that this new learning approach was the most interesting way for them to learn knowledge, and that it helped with their academic performance at university. One survey respondent who had taken the course eight years before (in 2011) spoke to the lasting power and influence of

interacting with community instructors and students from other cultures during the course relative to learning from textbooks,

> "*I learned technical knowledge from communication with local farmers, Indigenous people, Canadian and other international students instead of textbooks. After communicated with them, knowledge learned in textbooks had a more profound impression and understanding. It also helped me meet new friends with different backgrounds, which benefited my academic life."*
>
> Survey# 21, 2011

The course encouraged collaboration among students and between students and instructors and the exchange of ideas and perspectives. Participants were able to link new thoughts to old concepts based on what they learned before, making learning more relatable and relevant. Students also developed their critical thinking skills. Importantly, these impacts were long-lasting. One survey respondent who had taken the course six years before (in 2013) indicated how the course still affected them – both with respect to attitudes towards Indigenous people and also when it came to critical thinking skills that they were able to apply in their lives almost a decade later,

> "*Those experiences from the course are still affecting me. As an environment major, I enhanced my critical thinking ability towards environmental issues and can think more thoroughly to see both sides of issues. Also, when addressing some environmental issues, I will think about how Indigenous people being affected and what actions can be done to mitigate any adverse effects. Critical thinking is helpful in my life as well to make me consider questions carefully*."
>
> Survey# 61, 2013

In addition, experiential learning helped to retain memory through significant connections between feelings and processes of thinking. Through knowledge connected with ideals and feelings, participants were better able to learn successfully. The great majority (93.85%) of

participants indicated that "*I will remember the content of this course more than other university courses because of this learn-by-doing approach*" (x=6.25, SE=0.16) (Table 1).

Experiences with or insights arising from the course that still affected participants also included attitudes and behaviours related to food. Because over 90% of the participants understood more about the food system (x=5.86, SE=0.14) (Table 10) and most (81.54%) were more likely to see where their food comes from (x=5.51, SE=0.13) (Table 10), their attitudes and behaviours towards food changes in their own daily lives. Some participants chose to purchase more locally produced food to support the local economy, and some decided to buy more organic food that would benefit the environment and their health and wellbeing.

The impacts of this kind of experiential learning were deep and long-lasting. More than half (77% or 50 of 65) of participants had taken the course at least two years ago (2006-2017), and few (25% or 16 of 65) participants had taken the course at least five years ago (2006-2014) (Table 1). The great majority of participants (89.23%) agreed with the statement that "*even now, the content of this course is higher in impact than other university courses that I took*" (x=5.91, SE=0.14) (Table 7). They further indicated that such experiential learning instilled numerous practical skills and provided insights that helped or would help them succeed in their future careers. Participants applied concepts from previous courses to practical contexts with improved writing and communication skills, which are important for their future careers. A survey respondent who had taken the course 10 years before (in 2009) thus indicated how relevant the knowledge and skills still were in their careers,

> "*The knowledge and skills that I learned from this course about rural communities, agriculture, and food are still beneficial for my career because my work duties are finding sustainable development solutions with local community members. Encounters with Indigenous people and local communities is still an excellent opportunity for me and others to get to know Canada.*"
>
> Survey# 36, 2009

5.2.4.1 My perspective as an international student

I was born in Xi'an, a sub-provincial city in Northwest China. I came to Canada as an international student in 2013 to start my undergraduate studies at the University of Manitoba. I took the Banff travel course and the Clearwater travel course in the third year of my undergraduate studies. Those experiences led me to learn about outdoor experiential education. My interest in the impacts and implications of experiential learning and community service-learning for students brought me, eventually, to this research.

I took the course in 2015 and then worked as a teaching assistant on this course in 2019. As an international student from China, I am well aware of the course and the many challenges and benefits that Chinese students usually face during the course. This background allowed me to better realize and understand their needs. My own experiences thus facilitated this work - as an international student, my past participation in the same course, as well as my fluency in Mandarin.

The Clearwater course creates mutual benefits for students and rural communities by providing opportunities for sharing perspectives in a safe and positive environment. For example, the critical reflection journals and morning meetings help ensure that the domestic and international students are better able to reflect on their experiences and to gain understanding by sharing their observations and feelings. I genuinely understand that international students feel like outsiders in Canadian society. Still, we felt welcome in the communities we visited, both the rural community of Clearwater and the Indigenous community of Swan Lake First Nation. I would never have had the chance to meet and to get to understand Indigenous people who shared many aspects of their past and present cultures with feasts, dance, medicine and spirituality if I had not taken the course and changed my attitude. I will never forget those experiences and have gained a much deeper understanding and appreciation of the importance of food and the importance of both rural and Indigenous communities.

5.3 Discussion

This research produced results that corroborate the ideas of Pearson et al. (2011), who found that one of the key reasons people are buying local goods is the flavour and freshness of the locally produced food. Students indicated that local food tastes better and that food freshness is essential for them. As with other studies (e.g. Pearson & Bailey, 2009; Pearson et al., 2011) who found that customers also purchase locally produced food for social reasons, these results demonstrated that students thought they help the community and the local economy by purchasing locally produced food. Additionally, students were more likely to see where their local food is from and learned more about food that they personally eat because of this course. These outcomes support those of other researchers, such as Delind (2006), Pearson & Bailey (2009) and Pearson et al. (2011), who demonstrated that knowing the origin of food is considered a quality characteristic; consumers have more trust in locally produced food because they know the sources. Yet, students also pointed out the higher price of local or organic food was a main reason why they do not buy those food products although many were still willing to pay a 10% and 20% premium for local and organic food, respectively. This supports other studies, such as Khan and Prior (2010), who found that higher price is the greatest barrier that prevents consumers from buying locally produced food.

Previous research also described that organic food is generally seen as sustainable, healthy, and better in taste than conventionally grown food. Accordingly, environmental concerns are seen as giving rise to consumer preferences for organic food (Gottschalk & Leistner, 2013; Kushwah, Dhir, & Sagar, 2019). This research also demonstrated that students were more willing to buy organic food not only for health reasons but because of the environmental benefits after taking the course. They realized that purchasing organic foods at the grocery store would enable them to indirectly reduce the impacts of agriculture on the environment. Greater environmental concern contributes to higher inclinations and choices for green products (Lin & Huang, 2012). Therefore, awareness and concern about the environment is

expected to raise the preference of consumers for organic food (Kushwah, Dhir, & Sagar, 2019). After the course, students paid more attention to environmentally friendly production practices as organic farming.

The results of this research are consistent with those of Pearson and Bailey (2009), Born and Purcell (2006), Pearson et al. (2011), and Bryła, (2016) who all suggested that consumers think that local food is more environmentally friendly and healthy, and organic food production also forms an key part of dynamic sustainable consumption. Students believed that one of the major benefits of eating organic foods was lower levels of pesticides and the use of naturally derived pesticides. Many well-documented adverse effects of the mainstream agriculture and food system include groundwater pollution from pesticides and synthetic nitrogen, land erosion and damage, a significant emission of greenhouse gases, and a continued high rate of insecurity in food (IAASTD, 2009; Vandermeer, 2009). Students expressed their opinions that agriculture needs to change to become more sustainable and productive in the future in order to address any of its existing environmental and health impacts. New farming techniques that eliminate the need for chemical pesticides that are economically viable and environmental-friendly should be introduced as suggested by our students. Over 60% of participants believed that pesticide use in agriculture has adverse impacts on human health. Some students also suggested that farmers should be exposed to sustainable farming systems approaches, which might help them reduce their reliance on chemical pesticides. Farmers and pesticide applicators are more vulnerable because they receive greater exposure.

Previous research shows that increases in consumer expectations regarding comfort, informality and rapid pace in society had affected dietary preferences, family life, and consumption habits (Jaffe & Gertler, 2006; Shove, 2003). The food environment has been changed, which has led to an increase in the supply, diversity and plenty of prepared food products (Serecon Management Consulting Ltd., 2005). These results also demonstrate that food technology had brought everyone with adequate purchasing power an abundance of convenience

and prepared foods. All innovations have changed the way of cooking and the food that everyone eats; it perhaps simplifies food preparation but also complicates food choices. For example, students indicated that some kitchen appliances, like microwave ovens, have reduced the time they spend in the kitchen. As a result, convenience food has become dominant, and eating out and the purchase of processed foods is preferred over home food preparation (Serecon Management Consulting Ltd., 2005). These results indicated that time spent preparing home-cooked meals had decreased as these students usually eat at restaurants or order take-out food, and they also had choices like fast food and semi-processed food. This in part reflects their ample purchase power as international students. Moreover, these results revealed that students had less time to cook their meals because they were busy with their studies; besides, students lacked confidence in their cooking ability due to their lack of cooking skills. This is in line with other studies that show that home-based food preparation had declined because of 'deskilling,' which has negative implications and could be described as a substitute for home-made food by processed food and a lack of ability and confidence in youth regarding food preparation (Howard & Brichta, 2013; Jaffe & Gertler, 2006). Furthermore, Chinese students usually have access to much money from their parents and are brought up not have to cook. This course even makes some Chinese students the first time that they had to cook for themselves. Hence, Home-based food preparation changes are caused by the standardization of processed foods (Halkier, 2017) and the greater (perceived) need for simple and rapidly prepared convenience foods (Chu et al., 2013). However, some students made further decisions with healthy food choices in their lives having taken the course. They would cook more meals at home to save money or would prepare meals using healthy ingredients while taking time and effort to develop cooking skills.

These results also indicated that international students are generally unfamiliar with Canadian culture and the history of their host country, so they did not know much about Indigenous issues and cultures before taking this course. However, most students believed that they had a better understanding of the problems faced by Indigenous (Aboriginal) people as a

result of the course. Today, Indigenous peoples suffer numerous health problems and social and economic disparities that are directly related to colonization, the deprivation of their homelands, globalization, migration, and enforced loss of their culture and language (Gracey & King, 2009). The results pointed out that at least over the half of the participants cared more about the social injustices that Indigenous (Aboriginal) people face as a result of taking this course, and most of participants had a better understanding of social injustice as experienced by Indigenous people. With the many disparities caused by colonial policies and decision-making, the socio-economic position and environmental contexts continue to lead to inequalities that have persisted for generations for First peoples in Canada. Those disparities and adverse effects on the lives of First Nations, Inuit, and Métis people interact with and aggravate the influences of residential schools, the loss of Indigenous territories, the weakening of political and economic self-determination, threatening policies that still take children away from their communities, and other government policies for marginalization and trauma (Allan & Smylie, 2015; Greenwood & de Leeuw, 2012; Reading, 2015). These results demonstrated that international students had many negative perceptions of Indigenous people before taking this course, these amplified by the racism and stereotypes that are widespread amongst other international students, the media and Canadian society as a whole. Yet, some participants concurred that their attitudes towards Indigenous people and their issues were positively affected by taking this course because they had interpersonal interactions with Indigenous guest speakers, visited a neighbouring First Nations community and partook in traditional ceremonies during the course. What was seen as especially important by some was the opportunity – often for the first time – to directly interact with and to build relationships with Indigenous people as individuals. Similar findings by other researchers, such as Lashta, Berdahl, and Walker (2016), show that personal relationships with Indigenous peoples are essential for mitigating racism. In order to change racist attitudes, effective personal and friendly relationships between non-Indigenous and Indigenous peoples are necessary although ultimately inadequate. Clearly more than 10 days of interactions with these

peoples and cultures are ultimately inadequate for addressing long-standing and deeply mired racism, inequity and social injustice – but it is a meaningful and important first step for many students.

The results demonstrated that participating in new experiences allowed students to learn new skills, which may benefit their future careers and lives. These results are in line with those of earlier research which show that the experiences gained from an experiential learning may enhance student employment opportunities, increase social and personal relationship abilities at work, and allow students to apply their academic knowledge to the real world (Beard, Quinn and Shurville, 2009, as cited in Chan, 2012a). Students gained benefits from community service-learning, which included enhancing professional skills expected by both university and industry (McLaughlin, 2010; Clinton & Thomas, 2011). For example, a study examined an outdoor experiential program that introduced young people to natural resource-based careers, especially in environmental and geological studies, where they already know how to use their technical skills when subsequently entering the workplace (Garst, Schneider, & Baker, 2001). Students experiences from this course also contributes to the development of hand or technical work skills and practical skills, thus assisting in refining career goals, which supported other research findings (Goralnik and Nelson, 2017; Parr and Horn, 2006; Thiry, Laursen, & Hunter, 2011). Importantly, the results here show that these impacts were long lasting and in at least some cases were still felt a decade later in ways that eclipsed the "book learning" which still dominates most university curricula.

5.4 Implications and Conclusions

Due to the significant number the Chinese students who have taken the course, the results helped us better understand the unique experiences of Chinese and recognized Chinese students' attitudes and behaviours changed to food, rural community and Indigenous people. Additionally, the results provided evidence of long-lasting impacts of this experiential course on international students. This helps address a substantial gap in the literature, given the dearth of studies that

address the long-term effects of experiential learning programs, especially with respect to international students.

Previous studies related to international student experiences in experiential learning programs are limited, and it is important to assess their experiences and how their attitudes and behaviours were affected by experiential learning. By interpreting Chinese student attitudes and their subsequent behaviours on food, rural community and Indigenous people as a result of taking the course, I hope to inspire further scholarly research and critical inquiries that allow international students to engage more in environment and social justice issues and also experiential and community service-learning as a whole.

Students believed that they help the rural community and the local economy by purchasing locally produced food. Students were more likely to see where their food comes from, and they had more trust in locally produced food because they know the origins of these foods and in many cases how they were grown and prepared (Delind, 2006; Pearson & Bailey, 2009; Pearson et al., 2011). While students would like to pay more on local food products after taking the course, the higher sale price is still the most important barrier that prevents them from buying locally produced food (Khan & Prior, 2010). In addition, students focused more on environmentally friendly production practices since they felt that organic farming would be better for the environment. As a result of taking the course and being exposed to the rationale for locally produced and organic food, it is likely that these experiences reinforced already existing awareness and concerns regarding the environment and in some cases awareness regarding these issues for the first time (Kushwah, Dhir, & Sagar, 2019).

These findings also have important implications for international students and their attitudes towards Indigenous people – in Canada and ideally also at home. China for example, has social discrimination against minority groups (Cliff, 2012; Kaltman, 2007, Chapter 3). International students who previously had negative and stereotypical views of Indigenous people often changed their attitudes as a result of taking this course, in part because their awareness of

the underlying issues grew as a result of interacting with and learning from Indigenous presenters and their lived experiences over the 10-day period. This of course is hopeful, and one can only imagine what progress might be made regarding these inequities and injustices if such educational experiences were made more available to international students and Canadians alike.

6. THESIS DISCUSSION AND CONCLUSIONS

6.1 Discussion

The purpose of this study was to explore the implications of experiential education and community service-learning for international students especially for those from China. Additionally, it was to explore how and what degree attitudes and behaviors of international students especially those from China, are affected by an intensive experiential learning course. A mixed methods approach was used to guide the investigation. The data integration enabled me to provide in-depth descriptive information regarding academic, cultural, and social interactions viewed largely through Chinese student perspectives and allowed me to compare and contrast the findings of different perspectives in order to better understand the topic (Creswell, 2014; Creswell & Plano Clark, 2017).

It should be noted that this research does not represent a formal evaluation of the success or failure of this travel course, but instead used the course as a case study to explore the implications of experiential education related to food and the environment on the attitudes and behaviours of international students in this course. This work was collaborative in nature and was done in co-operation with and used feedback from the many students who have taken the course over the years as well as the university and community instructors.

The findings showed that experiential education was a highly effective method of conveying knowledge to students that links with their own experiences. Learning-by-doing encouraged students to be more engaged with and to take responsibility for their own learning through direct experiences and reflection (Bradberry & De Maio, 2019). Experiential learning programs typically aim to help students gain new skills by applying traditional classroom learning in practical, real-world settings. Chinese students described the experiential Clearwater courses as an effective and valuable pedagogical approach that encouraged them to utilize what they studied in classrooms. Experiential learning helped develop tangible skills, including critical thinking, problem solving, communication, teamwork, and leadership. This allowed for the

cognitive learning (Thiry, Laursen, & Hunter, 2011), personal growth (Goralnik and Nelson, 2017), and improvement of practical skills (Parr and Horn, 2006) in an affirming and student-centered learning environment. Furthermore, through service-learning projects, students gained new perspectives and understanding, and student confidence increased by working on applied projects with meaningful and social justice-related implications (Vuong, Brown-Welty, & Tracz, 2010).

Participation in community projects helps Chinese and other international students better understand their strengths and weaknesses. Students encountered people from different countries with views and experiences that differed from their own in the community project. Thus, some students stated that experiential learning courses forced students to deal with diverse ideas and viewpoints. Experiential learning was a method that encouraged international students to raise their awareness and visibility of their own views as well as those of others in the course. In turn, respect for others, as well as self-awareness, were also impacted. Student responsibility was higher and shown more rapidly through this experiential learning approach than in traditional classroom-based lectures.

These results indicated that for international students to become proficient and comfortable speaking in English, they need to have the opportunity to speak and engage with others and to do so often. During the course, students had many opportunities to discuss in-course experiences and topics in small groups and work with English-speaking partners to ensure that they received the practice they need. Students shared their thoughts, expressed their opinions, give feedback to each other in English, hence, most activities can be an opportunity for communication. Importantly, many of the interactions took place when the formal coursework was completed, early in the morning and especially late at night in the community kitchen and around the fire outdoors. Student interactions with one another enhance their learning but also their intercultural competency, and these frequent open-ended interactions were correlated with and helped nurture advanced communication skills (Arasaratnam, 2006; Gibson & Zhong, 2005).

International student communication skills in English improved substantially over the 10 days in comparison to other university courses because of these active and sustained cross-cultural interactions, especially with Canadian students who normally would be otherwise isolated in their own "friend groups". Such opportunities obviously benefitted everyone involved.

When international students chatted with students from different cultures, they also felt more connected to their own cultures. Some students regarded experiential learning as a beneficial learning experience that included people from different educational, cultural, and social backgrounds. These gaps affected student attitudes, such as their ability to communicate with Canadian students, open minds, and global awareness. For example, some Chinese students thought that their values and attitudes towards others changed as a result if these interactions, such as respecting the views of others who were not part of their culture as all the students adapted to these novel and sometimes challenging learning environments together. International students who participate in projects with students from other cultures earn a higher degree of intercultural perception (Glass & Westmont, 2014).

International students were generally unfamiliar with Indigenous issues and cultures before taking the course, but they gained a better understanding of the problems and oppression faced by these communities over the 10 days. Students who had negatively views of Indigenous people before taking this course often changed these attitudes. This in large part was attributed to the interpersonal interactions with Indigenous people during the course, in many cases for the first time, which challenged and sometimes overturned the preformulated views. Lashta, Berdahl, and Walker (2016) argue that such personal relationships with Indigenous peoples are essential for mitigating racism. And maybe such views were more amenable to change because they had only been existence for 3-4 years at the most, compared to the life long and even multi-generational racism that most Canadians are born into. Regardless, it would be naïve to assume that such stereotypes and racist attitudes would be solved at a societal level through courses like this one. But such courses could – and should – play a critical role in this much needed change.

Participating in such new experiences allowed students to learn new skills, which at least some saw as benefitting their careers and lives in the future. Community service-learning affected student behaviour, by engaging and contributing to social and real-world matters, such as improving their working skills and other life skills. For example, students learned technical skills during the course and through community projects, developed skills related to the use of physical tools and project design and management. Through this experiential learning course, students gained new perspectives and understanding, and their confidence was enhanced by working on projects with real-world implications (Vuong, Brown-Welty, & Tracz, 2010). Community projects like those students had undertaken in Clearwater and in Swan Lake First Nation involved open-ended group work that helped develop leadership skills that will ideally have sustained and long-term benefits (Goralnik & Nelson, 2017; Wurr & Hamilton, 2012).

This study sought to fill a gap in the literature regarding the perceptions and experiences of international students in post-secondary education as a whole, in environmental and outdoor education, and in experiential and community service-learning. In the field of experiential learning, few studies focused on international students. Although largely focusing on food and food systems, and the environment, the implications of this study are transferable to other disciplines and regions that incorporate experiential learning courses and/or international students in their programs. The results can thus help inform Canadian university administrators, program facilitators, and course instructors about what experiential learning means for Chinese and other international students, regardless of context.

6.2 Implications for Research

The implications of these findings and conclusions are clearest for audiences interested in improving experiential learning for international students (Clark & Ivankova, 2016). The following sections discuss implications of this study for Canadian institutions of higher education and rural communities, and other implications are directed towards international students.

6.2.1 Institutions of Higher Education

Many experiential learning courses focus on realizing the actual learning of participating students by initiating university-community partnerships. Experiential learning courses implemented by some universities focus on community partnerships rather than focusing solely on academic interests. Students will learn less from courses whose aims primarily concentrate on educational benefits. Understanding the broad needs of international students are required to ensure that they respond to and assimilate the content of experiential learning courses and grow as future professionals and as people. Hence, such courses are essential for providing social and cultural opportunities for both domestic and international students.

Canadian colleges and universities offering experiential education programs should assess the quality of cross-cultural interaction periodically in order to ensure that the needs and priorities of international students are being addressed. Very few studies have addressed international students when it comes to experiential learning. Even implementing these limited study findings would provide a reliable guide for university educators and administrators when it comes to a greater understanding of the benefits of experiential learning courses for students from Chinese and other non-Western cultures. In addition, regular and rigorous progress evaluation and review can help universities recognize the educational, social, and cultural interactions of Canadian students, international students, instructors, and members of host organizations – and the value of such interactions for everyone involved. Such assessment may thoroughly investigate the interaction between Canadian students and other international students from experiential learning courses and give specific recommendations for optimizing experiential learning outcomes. Because the cross-cultural interactions in the experiential learning courses had such a significant impact on the international students in this research, universities seem to have a great deal to benefit by launching the experiential learning programs. Yet, these results show that such experiential learning opportunities are still rare for students at the University of Manitoba, and by implication other post-secondary institutions across the

country.

Experiential learning may have even more far-reaching implications in the future of university education. These programs can be extended to multidisciplinary courses and are not limited to environmental fields such as architecture, engineering, and business. Experiential learning is based on students directly participating in the learning experience rather than passively receiving prepared content in classes. Experiential learning allows students to go deeper into the learning process; thus, students can fully convey and apply what they have learned in one situation to another. It's a simple fact that if I'm just told, I'll forget, but if I'm involved, I'll actually learn. Many universities have developed multiple experiential learning programs to enrich student learning at the undergraduate level. Yet they still play a minor role in most university education - in Canada and elsewhere, especially in countries like China and Bangladesh (Haque, pers. comm.). Students' feelings and experiences should be highly valued in undergraduate studies, and experiential learning should be an essential part of higher education. The findings of this thesis already reflect the positive impact of experiential learning on international students, so I hope that more comprehensive experiential education programs in universities will be opened up and provided with adequate resources by university administrators in the future.

6.2.2 International Students

These findings suggest that it is likely that the influence of experiential learning on Chinese students is more profound because of the effective absence of outdoor and experiential learning experiences in China. This is supported by other studies such as Li and Chen (2014) and Wang, Wu, and Wu (2013) who argue that outdoor experiences could play an important role in experiential education in China and more generally other international students who likely lack such experiences if they were raised in urban settings.

Through this experiential learning course, international students had opportunities to experience and reflect on social justice issues such as discrimination, inequality in rural

communities, and inequity faced by Indigenous people. This experiential course created an open and safe environment that is critical for students to experience and develop diverse perspectives. In addition, international students often find uncomfortable experiences that are associated with lack of language proficiency, difficulties in effective cross-cultural communications, racism and discrimination, beliefs and values, social and cultural habits. Those uncomfortable experiences can bring feelings such as isolation, frustration, and even fear. This experiential learning course allowed international students to face their own emotions and identify through critical reflection on cultures, habits, and beliefs in a positive and affirming environment. Student critical reflections that also provided space for students engaging in open, appropriate, and effective interactions across cultures.

The Chinese government has directly affected the public education system for more than a millennium, including the course of study, course content, selection of textbooks, recruiting of instructors, and student behaviour and values (Cook, 2008; Pan, 2007). Even today, most Chinese schools and courses are grounded in a respect for authority, obedience to the classroom and rigid discipline. International students usually view themselves as bystanders rather than in-person participants (Jackson, 2011), limiting their interaction with instructors and other students. Yet this is also true of their experiences while studying in Canada. The educational practices of international students and the fact is that greatest of them are often silent during class discussions. Their education does not include challenging the authority of their instructors or expressing their ideas but rather recording word-for-word notes to allow them to learn and be ready for exams. Nevertheless, by discovering their individual attributes, international students find meaning in their new experiences. These individuals are then able to face further difficulties and challenges in their personal and professional lives. In experiential learning programs, the interaction among students and between students and educators is essential to achieving high-quality learning experiences because international students are allowed to broaden their educational horizons and advance their understanding by engaging in such programs.

The results of this research project can be used to refine and improve student and other participant experiences and interest in the course. It also addressed the unique characteristics and experiences of many Chinese – as well as other international - students. Along with China's rapid economic development in the past decades and impacts on the 'One Child Policy', a great number of Chinese students go abroad to study, most of which is paid for by their parents. They chose to study abroad because experiences abroad have many long-term benefits for individuals, including more profound personal growth and development, advanced employment prospects and opportunities, improved educational performance, enhanced awareness on global issues, and enriched worldviews (Paige, Stallman, Jon, & LaBrack, 2009). With respect to experiential learning and environment education, the education system in China has generally overlooked the importance of these approaches to learning. Thus, Chinese students, have had little opportunity to gain insight into its importance. As it turns out, however, such experiences are generally in short supply for Chinese students here in Canada, outside of those in the environmental fields. Due to the great number of the Chinese students who have taken the course, this research helps us better understand the unique experiences of Chinese and other international students in this and other equivalent environmental courses. It also allows us to maintain and strengthen contacts between these past international students and other students as well as instructors and community members.

6.2.3 Rural and Indigenous Community

Students understand the community partner perspectives, their perceptions about reciprocity and mutuality, and community project experiences in community service-learning. Many researchers have indicated the importance of considering community-university relationships from the view of the host community (Barrera, 2015; Bortolin, 2011; Omerikwa, 2012; Sandmann, 2008; Sandy & Holland, 2006). Although descriptions of community engagement involve creating reciprocally connections between institutions and host communities, few studies focus on or even not mention of community partner experiences

(Khalaf, 2017). Students talked with local farm owners and community Elders in the experiential learning course, and students were provided a new view on rural communities like Clearwater are regenerating themselves in the context of rural decline. The experience of immersion in a town allows students to establish relationships with community members. Most rural community members enjoy the hosting experience, and most seemed to appreciate meeting the students and learning about the student backgrounds, culture, or world view. Indeed, most of them seem to find it to be a tremendously rewarding and affirming experience, and especially value the interactions with international students from around the world.

The community projects need advice from community members, and they involve at different times throughout the course and the partnering community organization – Harvest Moon Society, which runs the former elementary school as the Harvest Moon Learning Centre. The Society is critically engaged in the planning, implementing, teaching and evaluation of the course as a whole as well as community projects. The projects are identified and planned to fulfill the community and the Society's needs best, and community members find ways to work on the community-identified needs and build beneficial change eventually. The need for guidance and mentoring of international students is essential during the progress of the community project. Students engage with each community member who has taken responsibility for the project to discover, define, and best meet local needs. The projects ultimately represent a mutually reciprocal and multi-win outcome, for students, community, the Society and the course instructors alike.

Moreover, the findings of this study indicate that community members recognize that knowledge and intercultural exchange amount to tangible benefits for the community. Sometimes students bring technical knowledge that can help set up routers and better Wi-Fi for the community, can help build new roofs for the restaurant or display cases for the local museum, decks, woodsheds and ticket booths for the Society, to say nothing of painting and even more painting. The projects are selected to have real value for community but also, they can be

completed in time and at little to no expense to the community. But the ultimate benefactors are the students themselves, and many of the responses to the survey highlighted this, even a decade later.

The relationship between the closest Indigenous community, Swan Lake First Nation, evolved over a four-year period. And really came to fruition over the two years before the pandemic hit and stopped the course from being held in either 2020 or 2021. It is hoped that the course and the relationship between the students and Swan Lake will resume in the summer 2022. There were similar opportunities for students to undertake community projects and to give back while learning about the many unique characteristics of this Indigenous community and the many challenges it faces. These are supplemented by teachings from visiting Indigenous instructors including Elders and scholars and together collectively represent a unique and rewarding for students – international and domestic – to learn and grow.

The findings of this study also show value of intercultural exchanges between the community members residents and students from other countries. Community members realized how important it was to share experiences and discover new methods of engaging with other people. Community members get to know different countries without actually visiting through the vicarious experiences of the students; meanwhile, students can discover something unknown and real. The multicultural exchange was seen by all students - and by community members - as a tremendous strength of the course.

6.2.4 Potential Future Research

International student retention is a crucial issue for Canadian higher education institutions as university budgets are increasingly reliant on the tuition fees (often 3-4X that of domestic students) that they bring in the face of declining government funding. Further studies should be carried out for non-Western students that combine academic interests, career-related opportunities, and life-changing learning. These research results revealed that experiential learning approaches bring positive academic and cross-cultural results for Chinese and other

international students. These current results may be supported or contested by the upcoming studies.

Since this study examined the benefits and challenges associated with an experiential learning course from Chinese and other international student perspectives, the findings of this research may be better understood and supported if a study is conducted from a variety of viewpoints. For example, one area of research that was of interest to participants that my Masters research was not able to complete was an investigation of the experiential learning program experiences from Canadian students emphasizing their relationships and interactions with non-Western students. There was also an interest in finding out more about the experiences of Chinese students who pursue learning in Canadian universities compared to those of Chinese students still learning in China. I recommend that future research use a larger sample size of international students from different experiential and classroom-based courses, programs, and diverse linguistic and cultural backgrounds in order to improve the richness, reliability and transferability of findings. The research design in future studies could strengthen the findings related to the impact of experiential learning programs on international student careers and professional development. And ultimately could only act to affirm and extend the value of this course and more generally the value of experiential and community service-learning to all university students.

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