

EXPERIENTIAL LEARNING AND ARCHAEOLOGY: RECONCILIATION THROUGH EXCAVATION

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The discipline of archaeology is uniquely positioned to allow for inclusion of culturally appropriate curricula to be incorporated into student learning objectives as mentioned in the 94 Calls to Action by the Truth and Reconciliation Commission of Canada (2015). In this paper the authors discuss the creation, implementation, and qualitative feedback of a community-directed and curriculum-based education program developed by graduate students that uses archaeology to mediate student learning and meet curriculum goals in both classroom and land-based environments. This experiential learning initiative involves graduate and undergraduate students, and students from a local Indigenous community and the surrounding area. Feedback from educators and student participants, both Indigenous and non-Indigenous found that the experience fostered a deeper understanding of longstanding histories of the land and increased cultural appreciation. The paper outlines program development, curriculum connections, community engagement, as well as educator and student feedback. This programming can be used as a framework, and the creation of local and place-based education initiatives is encouraged within other disciplines to facilitate pedagogy for reconciliation.

Key Words: Archaeology; Reconciliation; Calls to Action; Experiential Learning; Student Inquiry

Universities and public organizations have a moral imperative to support the process and the product, or material, we use to educate while honouring the true principals of collaboration. The Archaeology Aboriginal Youth Engagementⁱ program aims to respectfully engage with local communities on Blackfoot territory, and the program fosters a mutually beneficial working relationship with Siksika Nation. In this paper we outline the development of this program through to program outcomes to provide an example to facilitate outreach and community engagement in other disciplines. This centers on the discussion of the value and importance of community engagement and co-development in the context of the Archaeology Aboriginal Youth Engagement program, and to share some of the feedback from participants and educators. This program explores archaeology to facilitate reconciliation through experiential learning and based on outcomes provides a new opportunity to move forward in development of similar programs that recognize these vital components.

Alexa Scully (2012) stated that local and place-based education can allow students to “experience the history of their land with cultural and territorial specificity” (p.156). The embodiment of Indigenous knowledge can rely on place-based processes that include awareness of cultural practice and beliefs (Robson et al., 2009). Programs that engage youth outside of the classroom have been widely recommended (Hamilton, 1980), through engaging the learner more

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actively in learning. Other programs of a similar nature, such as Arellano, Friis, and Stuart (2019), that use Indigenous-led land-based learning were found to encourage cultural dialogue and mutual respect. Studies that incorporate archaeology have also been found to enhance students' appreciation of the relevance of the past (Giles, Cobb & Debert, 2010). As learning results from the synergetic transaction between the person and the environment (Kolb & Kolb, 2005), programming that brings students to the Nation allows for deeper learning as students become fully immersed in culture and history. Archaeology is the study of objects that remain of past human activities and the discipline can be used for enhancement of education, promoting enthusiasm, engagement, and excitement about the past that lie at the foundation of student inquiry (Rop, 2002). The main research questions discussed are;

- i) Can archaeological programming aid in answering the Calls to Action put forth by the Truth and Reconciliation Commission of Canada?
- ii) Does archaeological curriculum-based programming provide an avenue for deeper connections to land and increased cultural appreciation?

Success measures include a program where participants develop a natural curiosity for studies of the past, and a new appreciation of the diverse and complex history of this land, with enthusiasm to explore it.

PROGRAM DEVELOPMENT

The University of Calgary launched the Program for Public Archaeology in 2008 to foster engagement with the local Siksika community in the archaeological excavations taking place at Blackfoot Crossing Historical Park on Siksika Nation. After the initial success of this program, a need was identified to engage local Siksika youth in a meaningful way. In order to address this need, the Archaeology Aboriginal Youth Engagement program was developed in 2016 to involve students from the Nation, and from the surrounding communities, to participate in the archaeological dig. The program and excavations are run through the University of Calgary's Department of Anthropology and Archaeology field school. The first years of the program were sponsored by The Calgary Foundation and the Archaeological Society of Alberta, and funding continues through the University of Calgary.

Learning through thinking, perceiving, and experiences on the land, while using the discipline of archeology, is the foundation of the program and the experiential learning opportunity for the learners. Development of the program involved collaboration with individuals from Blackfoot Crossing Historical Park and Old Sun College on Siksika Nation. This program aims at responding to Canada's Truth and Reconciliation Commission's (TRC) (2015) 94 Calls to Action through the inclusion of unique culturally appropriate and community-based programming to classrooms. Examination and critique of the program and activities, as well as continued self-examination, co-construction, and consultation is central to ensuring that as an ally to truth and reconciliation, programming developed is a benefit to student learning and aligns with community education goals.

PLACE-BASED EXPERIENTIAL LEARNING

High school students from Siksika Nation, and middle and high school students from the surrounding communities, as well as the City of Calgary are invited to participate, and thus far

the program has reached eight schools and a total of 161 students, most of which are local First Nations students. As experiential learning has been acknowledged to be less efficient and generalizable than symbolic classroom learning (Hamilton, 1980), integrating an approach that includes both conventional classroom-based schooling to lay foundation for the excavation experience was deemed necessary. Therefore, graduate student staff developed the program to consist of a full day in the classroom taught by graduate students in archaeology and Siksika Nation Ceremonial Knowledge Keeper *Kayiihtsipimiohkitopi* (Kent Ayoungman), who has gone through many transfer ceremonies on spiritual ways of knowing of the Blackfoot (Bastien, 2004). The day consists of presentations to the students about Blackfoot Ways of Knowing, followed by a presentation on the fundamentals of archaeology, the scientific method, and a discussion of culture history, the contact period, and how archaeology can be used to connect and support Blackfoot oral history and knowledge. The rest of the day is spent with the students completing curriculum-aligned hands-on activities relating to archaeology. The curriculum-aligned activities were developed by graduate students to align with the core pillars of the Alberta Curriculum set by the Ministry of Education for grades 6-12 and cover topics including language skills, science, social studies, art, and mathematics. Activities and questions are moderated based on information provided but use many of the same hands-on materials. Objects have the power to inspire, inform, excite, and educate, and they can be used to acquire specific knowledge, but also for transferable skills such as communication and teamwork (Chatterjee, 2011). As excavation is a team-based practice, classroom-based activities are suggested to be conducted in groups of two or three.

As relevant as they are, topics in archaeology are often lacking or omitted from social studies and other pre-determined curricula (Eisenwine, 2000), although enquiry-based learning practices stemming from archaeology have been compared to a form of educational excavation (Giles et al. 2010). The learning outcomes of this program aimed to aid in answering the Truth and Reconciliation Commission of Canada (2015) 94 Calls to Action by providing culturally appropriate curricula, through the inclusion of Indigenous people's historical contributions and providing an opportunity to integrate Indigenous history into a classroom setting. The classroom activities include the anatomical reconstruction of an entire buffalo (*iinnii*) skeleton, while answering questions relating to traditional uses of the bison. An introduction to stone tool manufacture and the evolution of hunting technology on the Plains using examples of throwing spears, bows and arrows, based on projectile points, is conducted and related to traditional stories. Connections for local learning can become incorporated into the Grade 7 Aztec-centered social studies content within the curriculum outlined by the Province of Alberta through the linking of the atlatl (throwing spear) technology, first used by Blackfoot and later adopted by the Aztec, as evidence of wide-scale interactions between Indigenous groups prior to 1800AD. Learning outcomes include gaining a better appreciation for the far-reaching influences and complex trade relationships that were occurring prior to European contact. Research on the ancient DNA of canine bones from the archaeological site creates connections for learning that aligns with Grade 11 Biology curricula. These activities provide background knowledge for archaeological excavation theory and methods used in archaeology. Providing necessary background of the knowledge objects can provide allows for appreciation of the significance of artifacts and the respect and maturity necessary to handle them during excavation. Program coordinators felt this classroom day is an important step in the learning process and allows students time to reflect before their participation in the archaeological excavation. Results found this allows students to be more respectful and engaged during participation in the excavation.

ARCHAEOLOGICAL EXCAVATION

Archaeology is often perceived as something that is studied in faraway lands and conjures images of Egyptian pyramids or England's Stonehenge. Many don't consider the vast history beneath our feet here in Alberta, comprised of monumental defensive architecture remaining of thriving trade villages, medicine wheels, or the landscape-altering feats of technology evidenced by buffalo jumps. The second part of the program attempts to promote appreciation for local history through having students participate in archaeological excavations at Blackfoot Crossing Historical Park on Siksika Nation.

Site Background

The archaeological excavations take place at the Cluny Fortified Village Site (EePf-1) which lies within the Blackfoot Crossing Historical Park boundary. The site is near *soyohpoiwko*, the Blackfoot name for the "ridge under the water" which was a significant crossing of the Bow River in Blackfoot territory, making this area part of a natural highway in the past. The banks at *soyohpoiwko* would eventually become the location where the significant Treaty 7 was signed, with Chief Crowfoot acting as signatory on behalf of Siksika Nation. Students are informed of this history and the significance of this place. Through this experience on the land students can ask questions to Knowledge Keepers, hear Blackfoot being spoken, share stories of Na'pi, and share in the re-discovery of knowledge. Through the interaction of high school students from the Nation and surrounding communities with students from the University of Calgary, a sense of pride, interest, and understanding is fostered to create steps toward reconciliation. It also defines the base of place-based education while committing to the principles of recognizing the Land, Language, Community and Culture of a Place.

Prior to commencing the excavation, *Kayiihtsipimiohkitopi* (Kent Ayoungman) conducted a ceremony for student participants from the University of Calgary, as well as students from Siksika Nation High School. Indigenous learners can use place-based Indigenous education "as a tool of resurgence and sovereignty" (Scully, 2012, 148). For non-Indigenous learners, place-based education can be used "to disrupt racialized perceptions of Indigenous peoples and to create awareness of the cultural location of all peoples and pedagogies" (Scully, 2012, 148) and to foster cross-cultural understandings. In order to implement Kolb's Cycle of Experiential Learning (Kolb, 1984), reflection time was provided at the beginning and end of the day. When students arrive at Blackfoot Crossing Historical Park before they are taken down to the site, they are taken to overlook the valley that contains the site and are shown various features in the landscape, such as the river and significant places such as *soyohpoiwko* to place the location within the context of the landscape. At the end of the day, students are again taken to the lookout and told to reflect on the lessons gained throughout these experiences.

During the excavation, student participants in the program are paired with University of Calgary ARKY 306 Field School students and taught the basics of excavation methods and receive direct feedback and support. As experiential learning includes different types of individualized and group learning experiences (Gieger, 2004), the students participate in the hands-on exploration of the past through digging, screening, and recovering objects and activity areas of the past. Students' active engagement in the research process can affect construction of knowledge (George, 2005), and archaeology allows for primary sources of evidence of history to be discovered, allowing for re-interpretations of history and incorporation of Indigenous worldviews directly into primary methods. The field school students benefit from valuable mentorship experiences, and both students and participants subsequently become co-inquirers in

the exploration and learning (D'Souza & Ferreira, 2019). The pairing of University of Calgary students and high-school student participants allows high school students to engage in conversations with post-secondary students in an informal environment, allowing them to potentially explore personal interests and opportunities in post-secondary education. University of Calgary students are also provided the opportunity to experience Blackfoot cultural activities through programming offered at Blackfoot Crossing Historical Park. Object-based learning has been studied for being an effective tool for use with Museum collections, and this program further builds on that foundation through objects uncovered. Objects can be used to inspire discussion and more lateral thinking (Chatterjee, 2011). Through asking the students firsthand to interpret their findings using previous examples or by using previous cultural experiences to draw upon.

As the program developed, it has grown to incorporate a greater classroom-community linkage (Cantor, 1995). Archaeology is shown to have positive benefits through interdisciplinary instruction in middle-school classrooms (Eisenwine, 2000), success is demonstrated through retention, understanding, and retaining information concerning conservation of archaeological resources. Also, new or increased appreciation for First Nations culture and history is a demonstrated outcome, as history is brought to life through experience. Experiential learning theory takes place when students are immersed in a culture. High School students both on and off the Nation are consistently enthralled with the idea that history can be discovered beneath their feet, all over the landscape. The belongings contained in the ground add a 3rd dimensionality to the landscape as students peel back the layers of dirt like the pages of a book to learn how people lived on this landscape through that practice.

Being on the land demonstrates the distinct relationship between the people, environment, and geography, as well as animals and plants (Bastien, 2004). A scientific approach is applied in archaeological methodology, in the excavation technique as well as data analyses. But that is only consequential if you incorporate language and stories to bring meaning to these interpretations and understandings. History and science can be taught through archaeology in capturing the meaning behind student learning. Brian Gieger (2004, p.166) suggested that students can learn ethics, character, and a more in-depth understanding of citizenship through the planned study of archaeology. Through the knowledge shared by *Kayihstipimiohkitopi* (Kent Ayoungman), and through this program a further growth in personal curiosity is instilled. Through a direct connection between *iinii* (buffalo) bones identified in the classroom and the recovery and recognition of those bones firsthand from the dig and after observing traditional food preparation is significant. Through this connection, meaning and life are brought to the objects that are uncovered from the ground, facilitating learning, interest, and appreciation. These allow students the ability to connect theory with experience and thought with action; as well as to see the relevance of the academic subject to the real world; to develop a richer context for student learning (Gieger, 2004, p.166).

STUDENT INQUIRY

Archaeology is a discipline that walks the lines of science and humanities inquiry, using techniques, methods, and theories that were borrowed and developed from both science and art. Archaeologists rarely think of their practice in relation to teaching and learning theory, but many archaeologists have been employing experiential learning theory for decades (Nassaney, 2004). Experiential learning theory (ELT) defines learning as “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p.41), and ELT helps provide

guidance for applications by helping people improve their learning and designing better processes in education and development (Kolb, Boyatzis & Mainemelis, 2001). Archaeology can be used to apply experiential learning to aid in meeting curriculum goals as well as answer calls by the TRC, as students learn to apply archaeological methods to real world problems to preserve and interpret heritage sites. This example of collaborative research draws from partnerships between public agencies such as the university, and Indigenous communities, and illustrates the benefits of this approach for learning (Nassaney, 2004).

Although experiential learning theory has been studied in many disciplines, K-12 education accounts for a relatively small number (Kolb et al., 2001). The program presented therefore provides a contributable example for this area of study in a relatively unique and often overlooked discipline. To follow along the thread of student inquiry, this program was developed and implemented by graduate students studying archaeology. In addition to their research, coursework, and teaching requirements, graduate students, as potential future faculty to engage in the scholarship of teaching and learning. Programs such as this allow gaining practical experience and develop and advance teaching programs using research-based pedagogical strategies and scholarly approaches to research in teaching (Reano, Masta & Harbor 2019). The opportunity for graduate students to take an active role in teaching, particularly while engaging actively in the scholarship of teaching and learning, can be immensely beneficial, and this study provides an example of how this can be achieved. Further continuing along the thread of student inquiry, students engaged in the program become immersed in this experience and begin to formulate their own questions and through reflection, becoming active participants in learning.

Having the archaeological dig as the classroom allows students to participate in learning based on the learning style of the student, wherein the watchers can participate through for reflective observation, and the doers can choose to more fully take part in the excavation for active experimentation (Kolb et al., 2001). The entire experience can also be contextualized as an 'adventure'. A combination of education and adventure wherein people come together to make sense of local history and culture and this experience can facilitate learning encounters with people and place (Beard, 2010). Through the experience of exposing students to the local Indigenous community, this program aids in providing tangible and new perspectives on colonialization and Canadian history. Students learn to see historical knowledge as influenced by political structure and controversy as much as modern day, and gain insight into civics lessons through understandings that communities consist of audiences with different visions and interpretations of history (Nassaney, 2004). Experiencing cultural practices provides a learning experience with a greater appreciation for time-depth and intricacies of First Nations culture that many students in rural Alberta do not receive. As a way of attempting to create allies, these experiences and lessons gained can make strides in steps towards reconciliation through patience, understanding, and appreciation (Pratt et al., 2019).

Student Participant Feedback

Based on qualitative feedback received through narrative inquiry, as well as methods of participant observation, feedback from student participants indicate positive, enthusiastic responses from participants in the program. During excavation, the University of Calgary field school students reported that the high school students were excited to take part in excavations and asked numerous questions regarding the excavation, as well as personal conversations regarding continuing education. Feedback reported stated that participating high school students seemed intrigued about the education necessary to continue in archaeology. Both the high school

participants as well as the U of C students stated that they benefitted positively from the experience.

The positive benefits of this program are outlined by a Grade 11 student participant from Siksika Nation in describing their experience in the program in 2017:

"The fact that our people used to cross this river, cross this bank to trade, makes it the ideal place to learn. It is a real-world classroom that teaches me more than just history. It's important for me to do this because then I can tell my kids and my grandkids that I had a chance to be a part of your ancestors' way and to give them an understanding of what it [was] like. It's really empowering for myself as a *Niitsitapi*, Blackfoot person; these are things that [we] are finding in my own backyard. When you're in a generation where you're losing your culture, you're losing your language, to be brought here to get more understanding, it's amazing. Spiritually I feel connected, emotionally I feel connected, and to be physically connected, it brings it all together." (Collins, 2018; Fortney, 2018)

Experiential learning allows for ideas to be re-formed through experience (Kolb, 1984), therefore, instead of focusing on distinct outcomes of learning, reconciliation is hoped to be achieved through these experiences within the community, and mutual benefit for non-Indigenous student participants to begin to gain better understanding of Canada's complex colonial history. Student contributors stated that they gained new knowledge having participated. One non-Indigenous student that participated in the program stated that they "learned more about First Nations culture and history from one day on the site than I have from sitting in Social Studies class all year". Getting students outside of the classroom and becoming immersed in culture firsthand allows for achievement of learning outcomes through experience.

Educator Feedback

A finding of the outcomes of this work, that parallels findings by Eisenwine (2000), was that all teachers who participated in the program were in unanimous support. Educators stated on numerous occasions that they were grateful for this opportunity to supplement and complete their curriculum goals and were impressed at the program's strategy in aiding reconciliation efforts through inclusive programming options. Indigenous educator Lisa Calf Robe from Siksika Nation High School, stated that:

"I'm amazed by what this site has to offer, and our students are so proud that this is on their land, in their home, I'm so happy that we're doing this program with the University of Calgary. It's important for our students to know that their culture is being taught out there, that's it's valuable. Many of our students who are of Blackfoot descent and who reside within the Blackfoot traditional territory do not know of the significant value our past grandfathers and grandmothers have had in traditional knowledge and daily living. These types of programs enable our students to become aware and gain tools to begin or increase aspects of traditional Blackfoot people (*Niitsitapiiks*). It is through the help and guidance of the archaeology program that gives us these opportunities for our students to learn how once we had lived and carried on daily aspects. We trust that our students will become resilient, competent and knowledgeable learners on their educational path within our schools. This program has allowed our students to do just that and to be proud of where they come from."

She further stated that she did not have opportunities to take part in programming such as this when she was in school and wants to create the opportunity for students to experience culturally specific curriculum (Fortney, 2018). Another non-Indigenous educator from James Fowler High School in the city of Calgary stated that:

“going to the site was really exciting, and the focus on explaining how the origins of the site were learned from Siksika elder One Gun, as well as the traditional lifestyle of the Indigenous peoples who lived at the village was very empowering for our Indigenous students. It was an experience that promotes the Calls to Action and build on the reconciliation process when all students are exposed to the history of the Indigenous peoples of southern Alberta.”

Therefore, based on educator and participant feedback, as an exploratory strategy, this program was deemed valuable and successful in meeting its goals of addressing the research questions to promote a deeper understanding of history and create pedagogy for reconciliation.

CONCLUSION

It is through the example of the success of the Archaeology Aboriginal Youth Engagement program that other disciplines and areas of expertise take this model and further explore and reflect on how their disciplines can develop outreach programs and create opportunities for experiential learning. Experimentation into programs for youth has been urged (Hamilton, 1980) and by incorporating programs such as this, graduate and undergraduate students gain experience in teaching and learning scholarly approaches, and K-12 students are provided the opportunity for experiential learning in new environments. This program has fostered new partnerships, curiosities, and interests and aids in answering Calls to Action and supporting reconciliation through improving relationships, facilitating learning, and positively benefiting student experience. Collaboration ensures place-based curriculum principals are implemented in design and development. This program is just beginning its inquiry into improving student learning, and in future years will gather student feedback in a systematic manner to ensure student learning objectives are met with success. The process of program development has enriched the students and staff at the University of Calgary on the process of true collaboration and the process of co-construction of educational goals for students of Siksika Nation. It is our hope that this model can be applied across disciplines to encourage collaboration and development of richer and more meaningful partnerships with local First Nations communities and to create partnerships with Indigenous associations to benefit continued student learning.

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ⁱ For the purpose of this paper, the terms Aboriginal, Indigenous, and First Nations are used interchangeably. We are using the term Aboriginal as that was the name of the Youth Engagement Program when it was developed. We recognize that the Canadian government is taking UNESCO's lead and moving towards full incorporation of the term Indigenous in policy. The term First Nation is respectful of space and place of the program with specific First Nations being named. All are used with good intention.