Research to Fill the Training Gap for Indigenous Audiences on High-Performance Building and Energy Management

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DISCLAIMER

This report was produced as part of the UBC Sustainability Scholars Program, a partnership between the University of British Columbia and various local governments and organisations in support of providing graduate students with opportunities to do applied research on projects that advance sustainability across the region.

This project was conducted under the mentorship of the Aboriginal Housing Management Association (AHMA) staff. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of AHMA or the University of British Columbia.

The author acknowledges that the work for this project took place on the unceded ancestral lands of the xwməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish) and Səl̓ílwətaʔ/Selilwitulh (Tsleil- Waututh) Nations.

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This research aims to address the capacity limitations encountered by Indigenous Peoples of British Columbia for energy efficiency and high-performance building management. The provincial government, in collaboration with BC Hydro and Fortis BC, not-for-profit organizations and training institutes, provides several training opportunities for Indigenous communities to switch to energy-efficient lifestyles.

Considering the relatively contemporary nature of the discourse, training and development programs have the potential to cater better to the needs of Indigenous housing providers through some design modifications. Through this research, AHMA would like to understand how capacity building courses can be made more effective, by addressing gaps in access and delivery of programs.

Upon consultation with training and housing providers, it was observed that a variety of internal and external factors, such as finance and human resources, impact training. Based on the gaps identified, a diverse set of solutions are being recommended, including vocational training, peer engagement and more, along with case studies to demonstrate their success.

The Aboriginal Housing Management Association (AHMA) Asset Management Team offers technical and strategic support to its members in the form of portfolio planning, capital planning and capital improvement. AHMA works with partner organizations, such as British Columbia Institute of Technology (BCIT), BC Hydro, Fortis BC, Cheakamus Center, and the Fraser Basin Council (FBC), to support staffing and training to build high-performance Indigenous trades capacity. In the last year, several partners have engaged the Asset Strategies team to participate in various advisory groups. Meaningful sector engagement has enabled AHMA to gain influence and learn additional best practices to support its members.

Some capacity building efforts include:

· Indigenous Youth Energy Workshop - To address a gap in outreach to Indigenous youth, AHMA hosted a virtual workshop with twenty-one participants from across BC, on and off-nation, in partnership with FBC and the Indigenous Clean Energy Network (ICE Network). The goal was to engage Indigenous youth interested in home energy efficiency, and to strengthen their capacity in energy conservation.

· Indigenous Train-the-Trainer Program - This program increased the number of Indigenous specialists in the province, established capacity in energy-efficient, culturally appropriate construction and building condition assessments, and created employment opportunities in Indigenous communities.

AHMA wants to better support Indigenous housing and service providers in building capacity to manage energy use and advance equity in the high-performance building and residential energy management sectors. BC's Indigenous communities and housing providers lack the capacity to develop climate change resilient, high-performance housing and other community buildings to serve their needs. This project aims to address capacity limitations and systemic racial barriers to accessing education for Indigenous housing staff through a review of current educational opportunities. AHMA would like to fill gaps in high-performance building training programs to empower Indigenous housing staff to pursue in-demand careers in the sector and improve housing for Indigenous Peoples.

1. Best practice scan of education delivery models and interview training providers
→ to assess what training frameworks are successful in recruiting and training, and barriers that prevent access and completion.

2. Compare external courses to in-house Train-the-Trainer and
Building a Greener Future Together
→ to understand the effectiveness of capacity-building courses.

3. Understand the need for training (capacity-building) and identify gaps and opportunities in high-performance building and residential energy management training programs
→ to communicate the needs of the member communities, create a strategic plan to fill training gaps, and meet members' educational needs.

TERMINOLOGIES AND CONCEPTS

The term "high-performance building" means a building that integrates and optimizes on a life-cycle basis all major high-performance attributes, including energy conservation, environment, safety, security, durability, cost-benefit, productivity, sustainability, function-fit, functionality, and operational considerations.

This comprehensive definition of high-performance building was proposed by the US Energy Independence and Security Act (EISA) of 2007. Based on this definition, high-performance building can be understood as an integrated systems approach to design, engineering, construction, and operations that cuts down waste, optimizes resource efficiency, reduces costs and environmental impact, and maximizes occupant comfort (Robinson, 2013). Energy efficient buildings and retrofits are, thus, tools that enhance residential energy management by reducing energy consumption and utility bills. Systems of heating, cooling, lighting, and individual appliances are measured to uncover trends in electricity use and mechanical operations to get maximum savings (Transparency Market Research).

Modifications made to existing buildings and construction of new ones imply a long-term investment in resource management and the trade-off with short-term capital efficiency will always exist (Robinson, 2013). Investments in sustainable buildings require a shift in focus from the "business as usual" model to factors such as environment, social, political, and economic viability to assess its end-usage. This multi-criteria decision aiding (MCDA) method provides an expansive approach to supervising building construction and retrofits. It includes deliberations such as activities conducted in the premises; incomes, expenditures, and plot use efficiency; social value-added services;

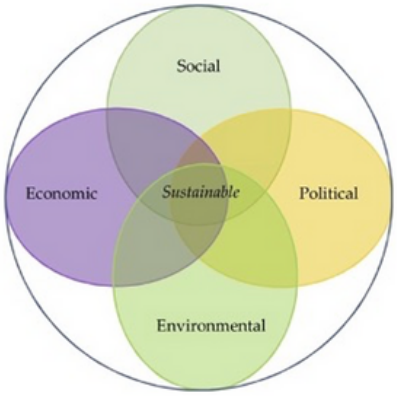


Figure 1: Sustainability categories
Source: An integrated assessment of the municipal buildings' use including sustainability criteria

and energy consumption (Šliogerienė, Turskis, Vilutienė and Zavadskas, 2021). Using this model has several benefits such as lower maintenance, increased health and safety benefits, improved durability and risk reduction.

These values translate into the House As A System (HAAS) approach, a building science concept with diverse interdependent components such as environment, occupancy, building and mechanical systems. This approach to energy retrofits and building construction considers the impact of changing one component on another in terms of energy performance, moisture levels, air quality, occupant comfort, safety and home durability (Home Performance Stakeholder Council). Figure 2 illustrates how these components interact with each other to establish durable homes with a smaller environmental footprint.

Figure 2: House As A System (HAAS)
Source: Home Performance Stakeholder Council

An illustration of sustainable solutions is the installation of EndoTherm, an energy-saving additive for hydronic heating systems, at **Milestone Manor**, a flagship property of the **Dakelh & Quesnel Community Housing Society (DQCHS)**, located on the unceded, traditional territory of the Lhtako Dene Nation. EndoTherm-infused systems heat up quicker and stay warmer longer, thus requiring fewer heating cycles and putting less pressure on the boiler. This resulted in an energy consumption reduction of 15%, and DQCHS received a $400 rebate from FortisBC (Aboriginal Housing Management Association).

Source: Dakelh & Quesnel Community Housing Society

FIRST NATIONS HOUSING AND ENERGY MANAGEMENT

According to census data from 2016, approximately 44% of First Nations people living on-reserve land resided in homes that needed major repairs (Hildebrand, 2020). These Eurocentric houses are not only inappropriate for the regional climate but are also devoid of the cultural significance that First Nations typically have in their homes (INAAC 2005; UN 2005; Gareau 2004, 2005). The lack of weatherization implies that these houses cannot withstand the seasonal weather extremes in BC. Furthermore, due to legislative inefficiencies and obscure division of executive control over reserve housing, Indigenous Peoples have not had access to training opportunities to build housing structures and perform regular maintenance. A deficiency of quality, and quantity of housing accompanied by population growth, inadequate funding, restrictive government policies, lack of home ownership and culturally inappropriate housing design (UN 2005; Abadian 1999; Kendall 2001) exacerbate the housing situation for communities. Parallel to these compounding elements is accessing the limited funding available for housing construction and maintenance from the federal government, which can be a bureaucratic and burdensome procedure (MacTavish, Marceau, Optis, Shaw, Stephenson, Wild, 2012).

With the introduction of residential energy management programs, however, there has been a positive trend emerging in the sector. In recent years, Indigenous Peoples in BC have actively worked on renovations and energy-efficiency upgrades in partnership with public utilities BC Hydro and Fortis BC (the Indigenous Communities Conservation Program and Energy Conservation Assistance Program). Their various programs are creating space for an organized approach to making housing more comfortable and sustainable for communities. The Province of British Columbia, in collaboration with the Government of Canada, offers funding for projects that “implement innovative technologies and practices that increase energy reliability and efficiency, while reducing GHG emissions and making homes and residences more comfortable and more affordable” (Capkun, 2022). Provincial energy efficiency programs such as BetterHomesBC and BetterBuildingsBC, and the federal Greener Homes program provide financial incentives, information, and support to households and businesses to switch to high-efficiency heating equipment and make building-envelope improvements.

The Nuutsumuut Lelum (All in One House) in Nanaimo

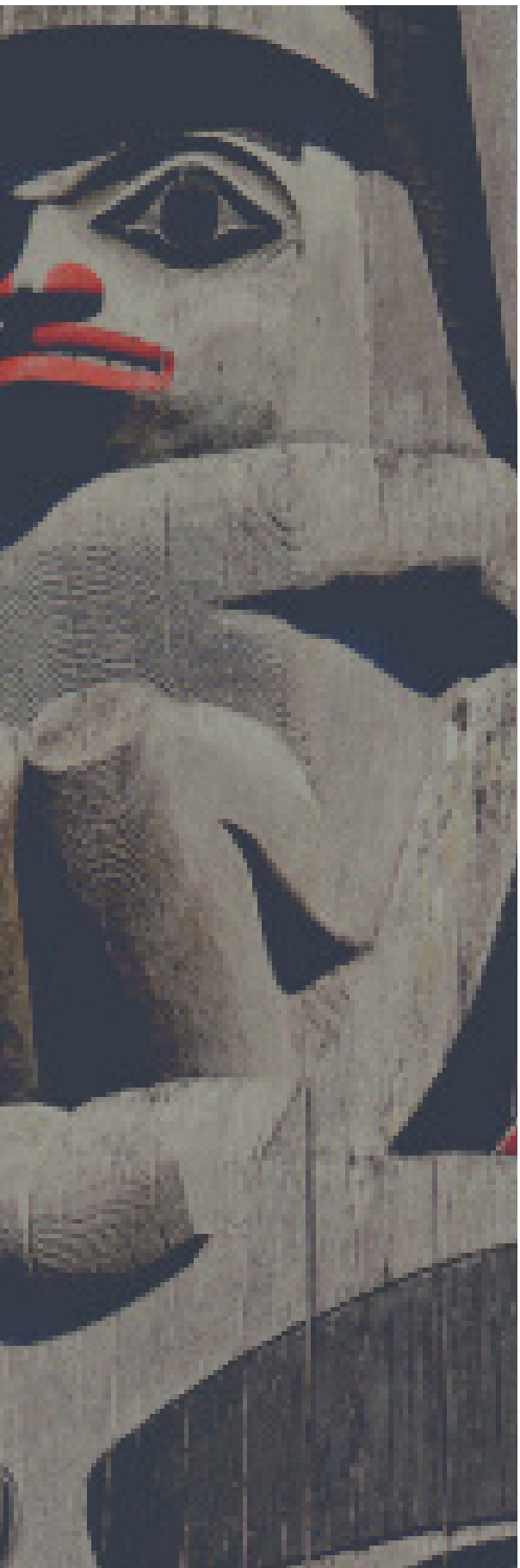
The Passive House design provides safe, culturally appropriate, and affordable housing for Urban Indigenous families; the use of Net Zero building elements such as an air-tight envelope, insulation on the exterior of the entire building envelope, and triple-glazed windows resulted in lower energy use and operating costs as compared to conventional buildings.

Source: Aboriginal Housing Management Association

The Clean BC Income Qualified Program

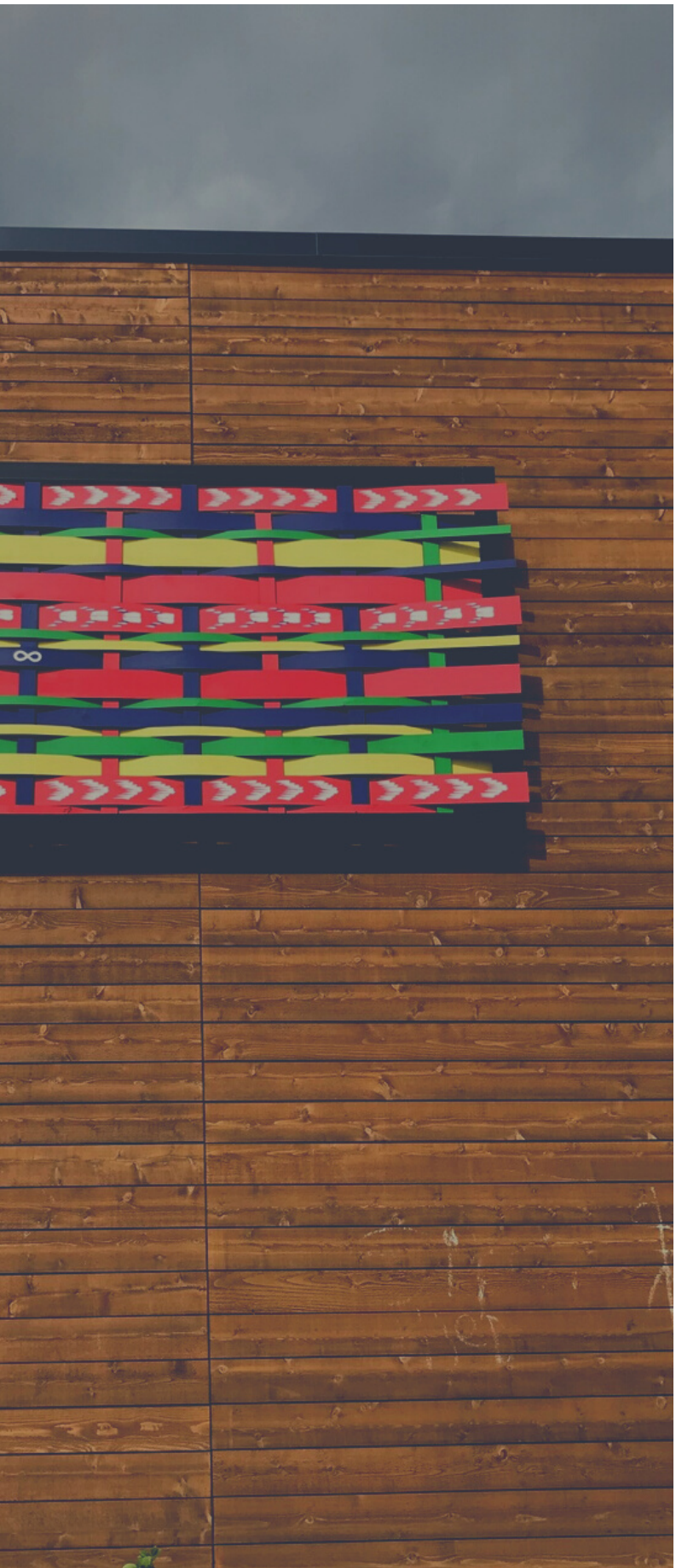
The Clean BC Income Qualified Program provides enhanced rebates that cover between 60-95% of home energy efficiency upgrade costs (the percentage covered depends on household income level), with maximum rebate values of $5,500 for insulation, $9,500 for windows and doors, $9,500 for heat pumps, and $3,500 for heat pump water heaters. Additional rebates are available for necessary health and safety, ventilation, and electrical panel upgrades. Free energy coaching, virtual energy assessments, and support in multiple languages can help identify the home upgrades and rebates that are best for the client.

Source: Clean BC Better Homes



Research on Indigenous housing has come a long way and has diversified into numerous fields, from the decolonization of housing structures and concept design solutions to addressing mold contamination and related respiratory illnesses. With the introduction of the BC Energy Step Code and Innovative Clean Energy funded programs for net-zero homes, scholarly investigations have now expanded to residential energy equity and health. Provincial funding for low-carbon construction and retrofits is appreciable, albeit the empirical gap between funding provisions and facilitating the transition in the community needs to be addressed.

Many Indigenous housing providers lack administrative and technical capacity that facilitates meaningful decision-making, which can increase maintenance and construction costs as they turn to contractors and consulting agencies for support. Thus, training, labor and income are lost opportunities for development. Energy management and high-performance building training programs act as agents of capacity development and help achieve self-sufficiency. It allows communities to take control of their housing needs, reduce dependency on non-Indigenous contractors and build meaningful relationships within and outside the community. This research will address how energy efficiency and high-performance building training programs can be structured to be made more accessible and accommodative for Indigenous housing providers in BC, both on and off-Nation.



An initial scan of available training opportunities was conducted using the spreadsheet compiled by AHMA staff earlier this year. Upon reviewing the content of the training programs, an interview schedule was designed. Both training and housing providers were interviewed to understand what barriers prevent the completion of training programs and what makes a training program effective. Three training providers and five Indigenous housing societies were interviewed. The training providers included BCIT, FBC and ICE Network. Indigenous housing societies interviewed included the Island Urban Indigenous Wellness Society, the Aboriginal Housing Society of Prince George, Musqueam Indian Band, Kekinow Native Housing Society and Dakelh & Quesnel Community Housing Society.

The interviews were approximately thirty to forty-five minutes in length and semi-structured. Two separate sets of questions were prepared for training and housing providers respectively. The questions addressed to housing providers were based on different phases of engagement with courses: identification of a relevant course, access, completion, and post-completion.

Similarly, training providers were interviewed on course design, delivery, and student involvement. Finally, a questionnaire was shared with AHMA to make sense of the process of how Building a Greener Future Together was established and delivered.

Based on the interview responses, a document analysis was conducted. Federal and provincial government websites were used to identify incentives and information available for energy efficient upgrades and building construction opportunities for Indigenous Peoples in BC. Peer-reviewed papers were accessed to clearly define scientific terminologies and architectural deficiencies in housing structures. Case studies from AHMA's document library and newspaper articles were also used to ascertain successful energy efficiency and building construction endeavors. Additionally, blog posts were utilized to make sense of education delivery models and pathways.

A qualitative approach was used to unearth the experiences and opinions of training and housing providers. All interview responses and documents were organized on NVivo to conduct an inductive thematic analysis. Patterns and themes were identified to arrive at broader generalizations through specific observations in the collected data. An attempt was made to incorporate the two-eyed seeing research method. It is a technique of inquiry and solutions which combines the Indigenous and western lens of viewing the world. The Indigenization of training curriculum and delivery was approached by employing this method.

ETHICAL CONSIDERATIONS

A consent form was distributed to all interviewees participating in the research as informed consent is extremely important. No sensitive information was collected during interviews and the privacy of interviewees was not breached by enquiring for personal information. Most importantly, as this research engages with Indigenous Peoples, respect for vulnerable persons was maintained and they were not taken advantage of. Participants had the option to drop out of the research at any point if they felt uncomfortable. Respect for human dignity was recognized and interactions were respectful. The dignity of the participants was paramount and was given priority over the goals of the research study.

POSITIONALITY

As an international student who moved to Canada very recently, I recognize my position as an outsider and the fact that I have limited experience in interacting with Indigenous Peoples. AHMA suggested I take Cultural Safety Training before starting the project to provide a background of the history, knowledge, and practices of Indigenous peoples. While conducting interviews and throughout the research process I tried my utmost to be conscious of my position. I also strived to share my knowledge and experience in the energy transition sector in a productive manner that could be beneficial to the research.

ANALYSIS OF FINDINGS

It takes multiple trial-error tests and feedback loops to create high-performance building and energy efficiency training programs. Training providers start with literature reviews to gauge what resources communities possess and which ones they need. This is accompanied by focus group interviews to identify the gaps and how they can be bridged through training. Fraser Basin Council (FBC) forms advisory committees with Indigenous organizations and connects with them every three to four months for suggestions. Referrals from partner organizations and feedback forms filled by students after completing a program are also effective methods for incorporating diverse opinions.

The Indigenous Clean Energy (ICE) Network, which is located in Ontario, but operates across Canada, conducts community engagement to receive initial insights on the design process. Thereafter, learning outcomes and objectives are compiled. The organization also consults with academics and subject knowledge experts to discern how training could be made more hands-on, effective, and interactive.

DETERMINING FACTORS FOR TRAINING DELIVERY AND ACCESS

Delivery, access, and completion of programs rely on a diverse set of factors internal and external to training providers and housing organizations. This section discusses key themes that emerged from the interviews and document analysis.

§ Delivery Methods

The delivery methods of programs and their structure impact how students engage with the content, the practical application of learning outcomes, and their motivation to finish the program.

With the COVID-19 pandemic, online training has become the established norm and has proven to be a cost-effective and less time-consuming method of course delivery. Arrangement of physical spaces for in-person classes, ensuring full attendance, and other administrative formalities make in-person delivery a less attractive option.

Despite these challenges, in-person or offline teaching delivery is preferred by most training and housing providers due to the enhanced quality of educational outcomes. Especially, subject areas that require a substantial empirical application, such as construction and asset management, require a highly interactive component. A possible solution is the provision of hybrid classes for a balanced approach to training. For instance, introductory modules, theoretical in nature, can be taught online whereas an in-person component could help students practice building construction. More on delivery methods and teaching approaches based on learning objectives will be discussed in the following sections based on the responses of Indigenous housing providers to virtual training.

Most housing providers interviewed vocalized the need for increased in-person interaction. The housing and facilities manager of the Island Urban Indigenous Wellness Society, Thomas O'Brien, emphasized the importance of visual learning and a hands-on approach to grasping building construction techniques. With virtual teaching, students find it difficult to connect with the content being taught.

Moreover, asynchronous online programs provide huge flexibility with makes commitment to the completion of the program a challenge. The CEO of Kekinow Native Housing Society highlighted the impact a disciplined program structure could have on learning outcomes. According to him, students should not have the option to skip modules, and tests after each unit should be compulsory to make students commit to the process. This comment was made in light of the very busy schedules housing providers have. With multiple tasks that need immediate attention, asynchronous online courses usually take a back seat for students, and setting hard deadlines could be used as means to facilitate learning.

Yet another challenge with online training is access to technological tools. According to the Musqueam Indian Band's Community Energy Specialist, Ehsan Haghi, a stable internet connection and access to laptops are usually taken for granted, along with the ability of Elders to operate them smoothly. These experiences of housing providers taking the courses highlight the significance of situational factors and crucial components of a well-built learning environment.

§ Human Resources

To make a training program constructive and worthwhile, a befitting workforce is indispensable. Finding the right people with available time and relevant experience is a major hurdle training providers face while designing and delivering courses. It is possible that individuals who possess extensive knowledge of a subject matter may not be the right fit to deliver the training. Alexandre Hebert, Manager of the ZEB Learning Center, emphasized the value of teaching experience and the skill to attend to students' needs over subject expertise. Hence, BCIT's solution has been to approach curriculum development and teaching separately.

Ian Scholten, Director of the ICE Network, expanded on the instructors' profile and stressed the importance of recruiting Indigenous leaders. He believes that teaching skills must be accompanied by the ability to connect with communities and acknowledge their lived experiences. At present, there are very few Indigenous training specialists with teaching and engagement experience with communities. The organization aims to train and employ professionals who are open to having conversations and developing meaningful relationships with communities.

Training providers are not the only ones struggling with time constraints and a lack of human resources. Housing providers grapple with a lack of personnel, as well. Most staff work full-time and attend to the housing needs of their communities. Dakelh & Quesnel Community Housing Society's Executive Director mentioned how their members try to cope with learning delays as they attend to the tenants' ongoing needs. The Aboriginal Housing Society of Prince George's Ruby Baptiste also lamented compromising on her daily tasks to complete pre-requisites for a course and participate in online training.

Additionally, identifying the right programs and targeting them to a specific employee is a complex task. At the Island Urban Indigenous Wellness Society, for instance, ascertaining which course would be beneficial for building construction and who should take it was a dilemma. Eventually, the architects and managers at the center decided to educate themselves and the learning process took approximately six months. Training providers also observed the need to allow students to take their time to absorb all relevant information and gradually increase their bandwidth to retain knowledge.

§ Finance

In many instances, Indigenous housing providers are unable to access energy efficiency and high-performance building courses due to the expensive tuition. But what makes the programs so costly? Every organization's most taxing task is acquiring and allocating funding. When training providers strive to make courses more engaging and arrange a hands-on learning component, upfront and ongoing costs tend to increase, which are then delivered to the students.

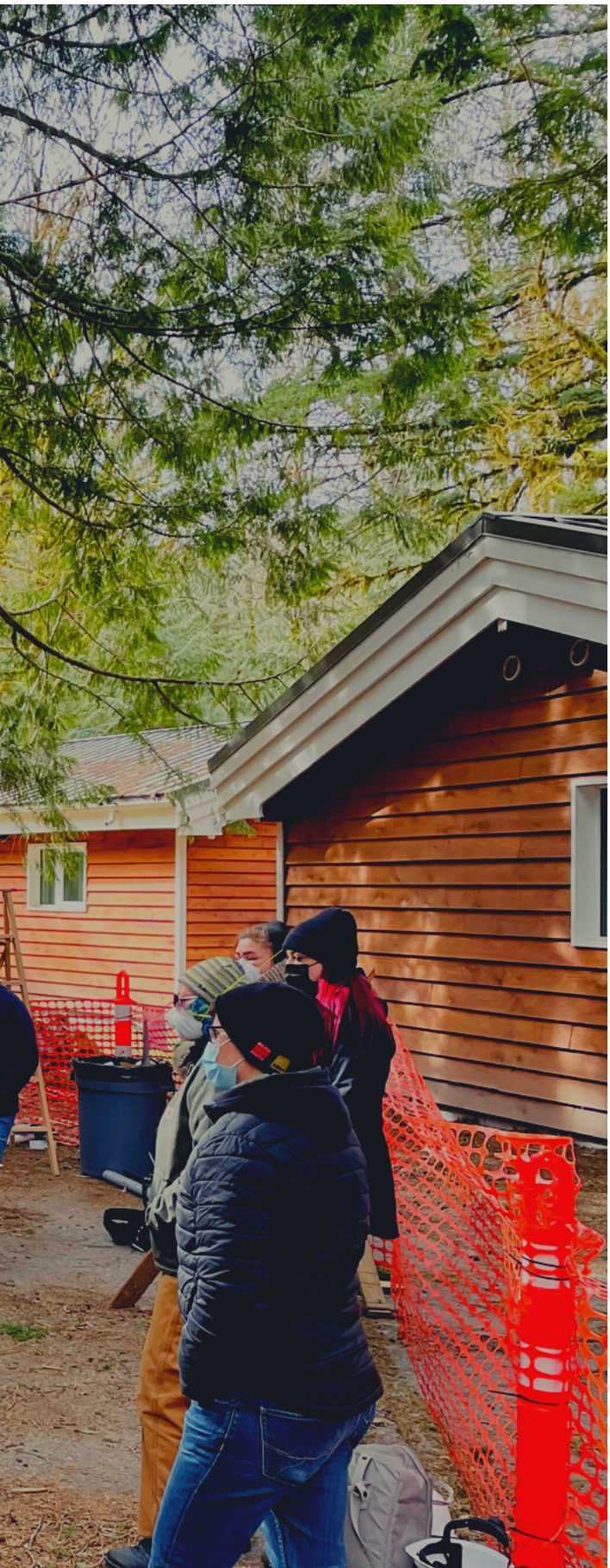
When programs are delivered in-person and students reside in remote communities, there are multiple logistical costs that training providers must incur. Flying students to the program delivery site, arranging accommodation, and providing technical tools are some examples. The ICE Network also aims to provide equity coverage for students as they usually take time off their jobs to participate in training.

Accessibility coverage is yet another aspect that requires attention. When women caregivers travel for training, the children need to be looked after. Maternity support for women is imperative for a gender-balanced approach to training and advancing women in leadership. Thus, allocation of equity, accommodation and accessibility coverage along with other provisions sums up to approximately $23,000-$27,000 per student. The incorporation of these socially responsive elements in a program depends on the funding available to training providers from federal, private, and provincial agencies.

§ Environmental and Social Context

British Columbia has diverse climatic and terrestrial zones which imply that housing architecture and energy needs are also contextual. In some regions, temperatures may reach above 40 degrees while in others it may go down to minus 30 degrees (Simon Fraser University 2007). From efficient ventilation systems and air sealing to insulation and heating systems, each community grapples with different issues. Training programs must assess these housing needs and account for environmental variances.

Differences in culture, availability of household energy data, and building regulations are also noteworthy. Assessment of housing needs should consider how families use their homes. For instance, some communities may require basements to store food. Furthermore, not all housing societies have easily accessible household energy data which makes planning and implementation of energy efficiency programs troublesome. And finally, Ehsan Haghi highlighted that building standards on the Musqueam reserve are different from the ones for the City of Vancouver, indicating a contrast in housing concerns. For the Indigenous housing providers, a consideration of these regional and contextual nuances would make training programs more favorable.



LOOKING FORWARD: RECOMMENDATIONS AND ACTION PLAN

Research participants were asked to describe what makes a program ideal in their opinion. With the gaps identified and a comprehensive analysis of successful case studies, recommendations and action plans were developed. These are targeted toward the experiences of training and housing providers, based on the gaps in teaching delivery and learning outcomes.

TEACHING DELIVERY AND SITE SELECTION

Training and housing providers unanimously believe that an in-person component for training is essential, especially for practical topics such as building construction and asset management. One suggestion has been to hybridize the course delivery, where upfront preparation is done online and thereafter experiential learning is provided in-person. As discussed earlier, the expenses for in-person training are considerable and training providers must navigate multiple administrative requirements, such as deciding on a location and following COVID protocols. Training providers may collaborate with one another to deliver the program and divide

expenses and managerial tasks amongst each other. It also provides an opportunity to expand engagement networks with academics and subject experts, while developing the curriculum.

Delivering courses in-person means selecting a site where students and teachers can get together. Collaborating with Indigenous communities on their traditional ancestral lands to deliver training is an appealing option. Taking the training program to communities empowers both they and the students. It addresses contextual variations and requirements of housing, enables the host community to network with a large group, and provides value-based training to Indigenous students.

Residential Energy Efficiency Works Program (REnEW)

FortisBC's REnEW program was organized in partnership with the Okanagan Training Development Council (OTDC) and Westbank First Nation, who provided facilities and resources essential for program delivery. Support, in-kind and on-site, was also provided by trade sponsors. The REnEW program begins with two weeks of classroom instruction, followed by a two-week group building project in the community.

In 2020, they organized an additional week for students to earn their small machinery operating license. The students worked on a garden shed project that exposed them to building construction essentials such as insulation, framing, door and window installation and roofing.

Source: FortisBC- REnEW program helps graduates to build a better future, November 4, 2020

Students also earned industry-related certificates including fall protection, construction safety, and first-aid training. Upon completion of the program, students could apply for college or new jobs, or return to previous ones.

BCIT Zero Energy Building (ZEB) Training with Nuxalk Nation in Bella Coola

The Nuxalk Nation is located in and around Bella Coola. The Nuxalk people are connected to their natural environment, land, and water. This is displayed through their focus on energy efficiency, clean energy projects, and ecologically conscious initiatives. The Nuxalk Nation strives to develop culturally appropriate, high-quality housing for its community members.

They recognize the need to build capacity within the band membership by training a workforce of carpenters, plumbers, electricians, and other trade workers. The Nation is now bringing educational opportunities into the community and in the fall of 2021, FBC and BCIT delivered BCIT's ZEB Training with Richard Hall, a housing consultant and member of the Nuxalk Nation.

Twelve carpentry students attended the training, and classes were split into four two-hour long virtual sessions, followed by a two-day in-person session at Nuxalk Nation. The virtual sessions established foundational knowledge on zero energy building principles including airtightness, building assembly, insulation, and mechanical systems. During the in-person training, students were able to apply these principles with a hands-on learning opportunity, and prior to this BCIT instructors met with the Nation members to better understand their building needs.

Source: Fraser Basin Council- Community Success Story: BCIT Zero Energy Building Training at Nuxalk Nation, 2021

TEACHING APPROACH

Online training can be challenging for both students and teachers. Staring at computer screens and listening to information-heavy content for long periods is not productive. Students' information retention and attention capacity reach a saturation point with teacher-centered passive learning. For teachers, engaging students online is certainly not easy either. Teaching approaches selected by trainers can make a huge difference in how courses are delivered. The table in Figure 4 hints toward methods that can make the online learning experience more interactive and student-centered.

	Teacher-centered	Student-centered
Definition	Instructor provides information to student	Student builds understanding with guidance of instructor
Theoretical Support	**Behaviorism**: Learning consists of inputs (information) delivered to students and outputs (student behavior) such as performances on exams, essays, or presentations	**Constructivism:** Students build understanding using prior knowledge and new experiences
Focus	Singular: Teacher actions and content coverage	Shared: Student action and teacher facilitation
Teacher Role	Deliver information, measure outcomes, reinforce behavior through process and rules	Provide experiences and guide meaning making
Student Role	Passive learning, take in information	Active learning, construct understanding
Method	Direct Instruction: • Modeling • Explanation • Elaboration • Lecturing • Demonstration • Thinking aloud through processes • Recapping or summarizing information	Coaching and Facilitating: • Interactive lectures • Asking questions • Guiding student thinking • Prompting and cueing • Scaffolding learning and information • Thinking collaboratively with students • Incorporating formative assessment
Assessment Role	Sort Learners	Guide Learners

Figure 4: Teaching Approaches
Source: University at Buffalo, Curriculum, Assessment and Teaching Transformation

Some activities that may encourage analytical thinking in classes include-

1. **Breakout rooms**: After covering a topic or subtopic, students can be put into breakout rooms for discussions of the same. This is also an opportunity for students to interact with program peers and bring forth any questions they might have about a specific module in a more relaxed environment.

2. **Role-playing games or group activities:** Group assignments encourage collaborative thinking. Students can be put into groups to participate in role-playing games where they are presented with real-world obstacles. Case studies may also be provided for students to analyze as a group. These are helpful to develop critical and analytical thinking skills.

INCORPORATION OF NEW ELEMENTS

Community engagement:

Post-completion of training, students must interact with the communities. These interactions may take different forms but the most common is persuading people to participate in energy efficiency programs. Entering people's homes and making changes to them is a complex task. Trust building and community engagement exercises in training can help guide the communication between housing providers and the residential community. Energy specialists, for instance, reported grappling with issues such as residents complaining about headaches due to LED lighting. Sometimes, maintenance issues go unreported which increases safety hazards. Educating residents on the benefits of energy efficiency retrofits and addressing their concerns can have far-reaching impacts on community harmony. Thus, introducing a module on community engagement can guide students on how to manage residents' expectations and apprehensions.

Indigenization:

Indigenization of the curriculum via decolonization cannot be achieved by simply introducing a unit in the curriculum. Acknowledging the lived experiences of communities and incorporating their feedback is indispensable. Tailoring services to meet a community's needs is one method to achieve the goal. This means not just catering to their geophysical housing requirements but also integrating their value systems into the learning process. Introducing values of reciprocity, sharing, and consent in teaching delivery, different from standardized education in western societies, can make learning more holistic and interdependent. This may take the shape of active student engagement discussed in the previous section. The following example is an illustration of how educational and extra-curricular activities together can contribute to the same.

Building a Greener Future Together (BAGFT), Aboriginal Housing Management Association

BAGFT was delivered on the traditional territory of the Squamish Peoples. The program was delivered in partnership with BCIT, B Collective Homes, and Cheakamus Centre. BCIT taught the Building Science foundational course and AHMA organized workshops and speaker series that were Indigenous-owned or facilitated. The students spent five days in-person retrofitting a fifty-year-old cabin.

After studying technical application in a seven-hour-long class, students participated in cultural afternoons. These activities involved teambuilding exercises, learning about Cheakamus lands, and traditional Squamish games like Doubles Ball. This was followed by an evening of singing and dancing along to traditional Squamish music.

Source: Mae Flanders, Indigenous Energy Advisor, AHMA

The program also introduced trauma and healing-informed workshops into their program to create a platform where students can appreciate and connect with their culture.

STUDENT SUPPORT

Supporting housing providers throughout their training journey is imperative to making a program successful. Based on student responses, some recommendations have been proposed to enhance the learning experience of students and help achieve their community's energy needs. The following recommendations follow a pre-enrollment, and post-completion format.

1. Hotline service:

Many housing providers expressed difficulty selecting the right course for their training needs. A quick phone call or email response, they believe, can help provide more focused information on which course would be suitable for them. Responses provided between forty-eight to seventy-two hours can make their search for courses significantly easier.

2. Vocational Training:

Practical training experience in the form of internships is an effective learning and networking opportunity for students. If a training provider is unable to deliver in-person training, they can alternatively connect students to potential employers or organizations looking for support. Vocational training allows students to gain insight into the daily life of an energy-efficiency manager or a building construction service provider. It also increases the value of a training certificate.

3. Peer Engagement Platforms:

Once training is complete and students start practicing the skills they learned, hiccups and implementation challenges will not be uncommon. These experiences are valuable and sharing them with their program peers can be helpful as upon completion of the training, students may find themselves dealing with similar situations. These platforms could also be used to address any questions or concerns students may have post-training and students can potentially become mentors for each other. Creating a space where people can connect with one another can, thus, be beneficial for trainers and students.

CONCLUSION

Building capacity and improving training opportunities for residential energy management is essential to increase the autonomy of Indigenous Peoples in BC. When communities are made self-sufficient and their reliance on non-Indigenous service providers is reduced, we take a step towards building meaningful relationships.

This research acknowledges the time and effort that goes into making training available for housing providers and is determined to make a powerful impact. However, there have been some limitations to this research. First, the research was done over a period of four months, implying time constraints. Second, due to the busy summer schedules and availability issues, a limited number of housing providers were interviewed. We believe with more engagement, an even better outcome and quality of response can be achieved. Third, all interviews were conducted online, which restricted the nature of the semi-structured interviews to an inelastic Q&A session.

Nonetheless, this work is an expression of a platform provided for engagement and consultation to improve current educational opportunities for Indigenous communities in BC.

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