ARCTIC ADAPTATIONS

NUNAVUT AT 15 - CANADA AT THE 2014 VENICE ARCHITECTURE BIENNALE

Competition Brief

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Introduction: Arctic Adaptations

2014 marks the 15th anniversary of the founding of Nunavut. However, Canada’s largest, most northerly territory is still unfamiliar to many Canadians. The myth of the Canadian north is tied to its unique geography – vast, sparsely populated, fragile, and sublime. Yet Nunavut, like the entire Arctic region, is undergoing dramatic transformation as powerful climatic, social, and economic pressures rapidly collide. In Nunavut, over 50% of the population is under the age of 25, making it a young, dynamic nation. Simultaneously, most Northern municipalities are under pressure to address ongoing social and economic challenges regarding health, housing, education, and employment.

The theme of 15 is echoed in the team structure. Working in collaboration with five Nunavut-based organizations, design teams – comprised of a Canadian architecture office and a Canadian school of architecture – will develop a 15-year vision plan for both a regional (territory) and architectural (building) scale on a particular theme. The themes are: Arts, Education, Health, Housing, and Recreation. Arctic Adaptations seeks to foster a collective discourse in schools, amongst architecture practices, and within Nunavut communities, on a proactive architecture motivated by progressive social and environmental responsibility.
Map of Nunavut and its Communities distributed over nearly 2 million square kilometres. Communities are connected to each other and to the South only by plane year-round, and by boat in the summer months.
Introduction to Nunavut

Before the arrival of other peoples in the North, Inuit had always lived a nomadic lifestyle in ilagiit nunagivaktangat or camps. In the Baffin region alone, families lived in over 100 locations in kin-based camps. Although the process of relocation to communities began as a response by Inuit to the presence of traders, explorers, and missionaries, it took new form during the 'settlement' period between 1940 and 1960. During that time, Inuit were moved off the land and into communities for a number of reasons, including policing, education, and the provision of health care for remote populations and reports of starvation among some Inuit camps (Kirmayer, Brass & Tait, 2000; Indian and Northern Affairs Canada (INAC), 1996).

The changes imposed on Inuit in order to achieve this goal were rapid and dramatic—this was not a gradual progression from a traditional to a modern way of life, but a complete transformation. As a result, families were severed, people were sent away never to return, and the way of life changed completely.

Today, there are 25 communities in Nunavut ranging in size from populations of 110 to 7500. All of the communities are geographically isolated and are only accessible by air, water, or snowmobile in winter. Nunavut has a very young population. In 2011 52% of the Nunavut population (31,906) was comprised of those 24 years of age and younger. While the North is increasingly becoming a mixed cultural population, 85% of Nunavut’s population is Inuit. Further, 68% of Nunavummiut speak the Inuit languages of Inuktitut or Inuinnaqtun (Statistics Canada, 2011).

Today, all Northerners are facing a new collective transformation together; a climate changing change climate where warming temperatures are challenging notions of permanence and transience alike (everything from melting permafrost foundations to shifting migration patterns of major food sources). However this rapidly warming climate is also yielding what many view to be unforeseen opportunities, including stretched transportation windows in the Arctic archipelago. These effects of climate change are especially challenging in Nunavut, with both a young history as a territorial government and a youthful and growing population confronted with these challenges and opportunities embedded in a terrain that is experiencing such rapid change.
Introduction to Education in Nunavut

Inuit clearly recognize the radical difference between formal education and traditional learning, labelling them, respectively, *ilisayuq* and *isumaqsayuq*. *Isumaqsayuq* is the way of passing along knowledge through observation and imitation embedded in daily family and community activities, with integration into the immediate, shared social structure and ecology as the principal goal. The focus is on values developed through the learner’s relationship to other persons and to the environment. In terms of the present speculations, *isumaqsayuq* may be understood as education leading to ecocentric identity. In contrast, *ilisayuq* is teaching that involves a high level of abstract verbal mediation in a setting removed from daily life, with the skill base for a future specialized occupation as the principle goal. *Ilisayuq* may be understood as education leading to egocentric development, to success in an egocentric contractual culture. (ITK 2007, 6) 1

Education in Nunavut has largely imported southern models of learning, language and curriculum. The period of residential schools which began in the late 1860s. The first government-regulated school for Inuit opened in 1951 and ended by the mid 1990s saw children moved away from their families to attend schools in larger urban centres. While it provided a level of education, it left deep emotional and social scars among most Inuit – due to dislocation from kin, and physical and psychological abuse. 2

In the last decades, schools have been built in almost all communities, ensuring children can remain in their communities to study through high school. Simultaneously, there has been a shift to incorporate Inuit language, cultural knowledge and heritage into the curriculum. Inuktituk is taught until Grade 3; beyond that, children must study in English. Thomas Berger famously wrote of the urgency of teaching Inuktituk in his 2006 *Nunavut Project Report* – arguing that culture is embedded in language. 3 However, the challenge remains how to cover so much teaching material—Inuit heritage and language, English, math and the various other subjects required to attain a diploma in Canada.
Attendance and graduation rates from high school are increasing across the territory; although they still lag behind those in the rest of Canada. Delivering high level education remains a challenge – for many reasons, including motivating students to stay in school, the inconsistency of teachers (who come to get experience in the North for a few years and then leave), cost of living, remoteness, the limited ability to teach beyond Grade 3 in Inuktituk, among others. At an infrastructural level however, most communities have the physical infrastructure, if not always the human resources, to offer a reasonable education program.

*Arctic Adaptations*, therefore, proposes to focus on post-secondary education (PSE)—including the spectrum from adult education, cultural heritage programs, and trade school training, through to university-level education—for which facilities and access is largely lacking in Nunavut. While challenges persist in increasing graduation rates from high school, and hence be eligible for post-secondary education, it is in PSE that the real architectural and infrastructural challenges lie.

Challenges exist at several levels. At a social and cultural level, challenges include preparing academically equipped entrants for post-secondary education, while fostering an appetite for post-secondary education is another. For those who do enroll in post-secondary education, the statistical evidence suggests that the majority of students are pursuing Certificate or Diploma level programs. Initially this will help the Government of Nunavut (GN) fulfill, in part, its requirement for representative public service. The Department of Education, Nunavut, however, does not collect at present, the graduation rate for postsecondary students, so it is not conclusive how many do successfully graduate. The other related issue is the transition from high school to postsecondary education: which has been lower than expected for some time, especially for the 17-19 year old cohorts.

At a cultural level, *Arctic Adaptations* argues, and many reports support, that there is a need to develop new models of ‘higher’ education that embrace Inuit knowledge and world view (ITK 2007). New education models suggest innovative governance and partnerships, an Inuit-centred curriculum, and adaptable academic programs. Traditionally, Inuit learning is not instruction-based, but much more focused on learning ‘while doing’ – suggesting new teaching models, which might focus more on apprenticeships as versus only classroom learning. A significant portion higher level education (high school and above) must address older students who may have been out of the education system for several years, and may often have families and young children, many of whom are returning to education after some absence. (ITK 2007) It is important that transitional programs are available to provide a bridge from previous school experience to post-secondary education and training.

Other challenges have indirect impact on education performance. For instance, there is often significant overcrowding in houses, which makes studying and learning at home a challenge (Berger 2006). For students who have to leave communities to study, the lack of family support often poses a challenge to completing their studies. Many students have young families. These multiple social challenges demand that architects rethink the conception of a school or college, and its attendant programs.

One great asset or opportunity for post-secondary education in Nunavut, however, is the disproportionately high population of young people. The traditional PSE cohort (17- 35) make up a significant percentage of the Nunavut population and is growing:
so there will be a healthy pool to draw from now and into the future. The funding support available to students is another strong asset. In Nunavut most students receive grants to attend post-secondary education. Travel within and outside of Nunavut for the purposes of postsecondary studies, for the student and the dependent family is also funded at actual costs by the Department of Education, Nunavut.

The Nunavut Arctic College is the institution of choice for about 65% of funded students and so prospective students are not travelling outside of Nunavut to attend post-secondary; at least for the first two years of post-secondary study. This situation is expected to eliminate or reduce the worry often associated with leaving family and friends and familiar support networks behind to attend post-secondary education in southern Canada.

Types and Models of Education in Nunavut

Community Education and Wellness Programs
There are many non-profit and community-based organizations (NPO) – such as Ilisaqsivik – dedicated to fostering personal and community development. These organizations offer support for youth, young adults, elders. They cover fields as broad as literacy, on-the-job learning of computer and media training, IT, book keeping, teacher training, certificates in counselling skills, amongst other things. Several also offer land-based programs—such as winter camping, harvesting, dog team training, way-finding, safe ice travelling, parenting, personal development workshops, and others. Being outside of formal educational structures enables them to be responsive and adaptable to community needs.

Arctic College
Arctic College is a network of educational facilities with campuses in several communities in Nunavut (Iqaluit, Rankin Inlet, and Cambridge Bay). They focus on trades programs, teacher training, training in language and culture and environmental programs. However the College maintains Community Learning Centres in every single community in Nunavut, in recognition of the need to have a physical presence in all communities. These are a doorway to a wider world of learning opportunities. Each
centre is staffed by an Adult Educator who can provide information and guidance to anyone seeking further education. However more types of trade schools—and those that can be better distributed—are needed, if Nunavummiut are to capitalise on the growth within communities and the expansion of the resource industry. Some interesting initiatives exist: a mobile trade school run by Aurora College (Arctic College’s Northwest Territories counterpart) offers the opportunity for trades-training in more remote communities; Arctic College offers programs such as Environmental Technology, in recognition of the growing fields of resource development and management, wildlife conservation, parks management, environmental assessment, among others, as growing fields. The Arctic Nursing Program, developed collaboratively between Nunavut’s Arctic College and Dalhousie University, is a four-year program that focuses on nursing in Nunavut. Recently a Pre-Cadet Training was implemented as part of the RCMP Aboriginal Training/Recruitment Initiative. The new Program is delivered in partnership between Nunavut Arctic College and Assiniboine College, Manitoba.

Extending this, the potential of education and training to pair with other programs such as police, in the case of the cadets training (or military, in the case of the Canadian Arctic Rangers) offers interesting new hybrid models of education.

University Education
Canada is the only Arctic country that does not have a university in its Northern region. Many possible explanations exist – the cost of running such a program, the highly dispersed nature of communities, the existing challenges of high-school and college training, as perhaps also, a lack of creativity about how it might be conceived and operated. As a result, students must largely pursue distance learning (programs exist with University of Calgary, University of Saskatchewan and University of PEI amongst others) or travel to the south to complete studies.

Research in and on the North
The Canadian Arctic is a rapidly-changing frontier of knowledge and education. There exist many highly knowledgeable groups: the Inuit, whose intimate experience of the land surpasses most physical records, and the scientific and social sciences
community, who are intensely monitoring and recording changes in lifestyle, habitat and environment. Yet there are few opportunities that facilitate an inclusive common ground for learning and sharing traditional and research-driven knowledge. Knowledge exchange has been increasing, but the relationship – both spatial and operational – of research centers, remains a missed opportunity for greater exchange between northern students and international researchers.

**Education Innovations**

There have been innovations in higher learning in the Arctic – such as mobile trade schools in the NWT, the online distance learning, new teaching methods, which have attempted to address challenges of distance and access to teachers, but many students who wish to pursue University level education must still travel to the South, uprooted from family, community and their culture. It is often very difficult for students who have lived their whole lives in a small Northern community to adjust to University life in the South, especially when they are cut off from their social and family support networks.

Other initiatives include the Akitsiraq Law Program developed with Arctic College in Iqaluit and the University of Victoria, which ran a law program from 2005 to 2010 that graduated a cohort of 11 students. Faculty from across Canada and the US served as teachers – both remotely and travelling occasionally to Iqaluit. The program, while very successful, saw its funding cut by the Government of Nunavut in 2011.

There also exists the University of the Arctic, of which Arctic College is a member, contributing actively to its programs and activities. The University of the Arctic (UArctic) is a cooperating network of over 100 universities, colleges, aboriginal and other organizations committed to higher education and research in the circumpolar world. It is not a degree granting institution. “The overall goal of the UArctic is to create a strong and sustainable circumpolar region by empowering northerners and northern communities through education and shared knowledge.” Despite the importance of this network, the Canadian government’s contribution is virtually negligible.  

However, were there to be an Arctic or Nunavut University, or even an much expanded Arctic College, there would need to be appropriate innovation of curriculum,
programming, academic calendars, locations and networks, and integration of northern and southern learning models, amongst other issues, given the challenges of cost, teacher availability, and other challenges. All models of higher education (including K-12 education) offer the opportunity for creating new exchanges between northern and southern knowledge.

**Design Challenge for Education in Nunavut**

This expanded notion of education poses important architectural questions and challenges. Inuit way of life is still deeply connected to the land and water; this is part of existence, knowledge, subsistence, and resilience. What new models of education might emerge that bridge local and southern/global knowledge, ways of teaching, and ways of learning? What new curricula and new architectures would be required to support such education models? Given some of the social challenges of education, what additional programs might augment or complement traditional education facilities (housing, daycare, etc...), expanded models of classrooms, etc? Can education programs pair with, or leverage the presence of other knowledge-based programs operating in the North?

**Key design questions are summarized below:**

- How might post-secondary education respond to the unique culture and climate of Nunavut?
- How might progressive and traditional education embrace many modes of learning, and many types of learning environments?
- Recognizing the significant challenges – in terms of building infrastructure costs, human resources, population catchments, etc... to support robust trade schools and post-secondary education – how might these programs be reconceptualised, in terms of program, calendar, building and campus typologies?
- Can education programs pair with, or leverage the presence of other knowledge-based programs operating in the North – research, military, economic or other?
- What programmatic roles might a school, college or university play in larger centres as compared to smaller communities?
- What role do family and community relationships serve in post-secondary education?
- Might there be models of education in the classroom and out on the land? What kind of architecture might facilitate this?
- How might education embrace these relationships within a much larger territory?
- How might education buildings be programatically multi-valent?
- How might education buildings be responsive to climate, to different modes of learning at different seasons?
- Can resources (educators, facilities, technologies) be tactical, networked, mobile, temporal?

**Program and Site**

Both educational curriculum and building typologies are ripe for reconsideration. With its 15th anniversary approaching, *Arctic Adaptations* argues that Nunavut needs a 2030 vision for the promotion, delivery, and access to post-secondary education across the territory. Design teams should represent this vision at two scales: (1) a territorial or regional scale – thinking about networks, exchanges of knowledge, of
educators, of technology; and (2) an architectural and typological scale.

The regional scale should describe how the proposal positively impacts a larger territory: through networks of mobility, trade, exchange, and how it impacts environment, species or multiple communities. The architectural scale should describe ideas about site, and temporal changes of the building through seasons with respect to users, program and building performance.

It is up to each team to determine the site(s) and program(s) relative to the theme of education in Nunavut. The expectation is that teams will select site and program based on in-depth research on the challenges and opportunities which Nunavut faces relative to the provision and expansion of education. Which communities are either in greatest need, or already thriving, or beginning new initiatives? And how might typologies respond to local conditions that vary across communities?

**Quick Facts**

- Canada is the only Arctic country that does not have a university in its Northern regions.  
- In 2006, 30% of Inuit in the territory (aged 25-64) had completed some type of postsecondary training. About 10% completed a trades program, 18% had a college diploma while 3% complete university.
- One of the few education statistics captured by Statistics Canada on Inuit education reveals that only 3% of Inuit men and 5% of Inuit women hold a university degree.
- 88 per cent of Inuit scored below level three on the prose literacy scale, “the desired threshold for coping with the increasing skill demands of a knowledge society.”
- In terms of K-12 education, Nunavut is relatively well provided: in 2009-2010, Nunavut had 47 licensed early childhood programs, including 30 childcare facilities, seven head- start programs, four preschool programs, and six after-school programs.  
- The education system in Nunavut has grown to include 43 schools in 26 communities, with 651 staff serving 9038 K-G12 students (as of 2009-2010).
- Inuit Grade 12 graduation rates estimated at around 25%, but no firm data are available from any of the four jurisdictions or Statistics Canada.
- 65% of funded students stay in Nunavut for post-secondar education, primarily through Arctic College.
Notes

2 For more information, see A Brief Report of The Federal Government of Canada’s Residential School System for Inuit, by David King (Aboriginal Healing Foundation, 2006)
4 See http://www.nunatsiaqonline.ca/archives/40820/news/nunavut/40820_01.html
5 Nunavut Arctic College, Calendar of Programs 2012-2014 (Nunavut Arctic College: 2012) 6.
6 http://www.arcticcollege.ca/publications/forms/2012-2013-Academic-Calendar-web-1.pdf
8 Nunavut Arctic College, Calendar of Programs 2012-2014, 8
8 See “Nunavut college offers free online course”, CBC Nov 17, 2011.

Resources

Education


Architecture

www.arcticperspectives.org


**General**


Inuit Tapiriit Kanatami. 5000 Years of Inuit History and Heritage. https://www.itk.ca/publication/5000-years-inuit-history-and-heritage


Competition Information

The Challenge
The focus at this stage of the competition is on strong ideas, rooted in thorough research and addressing clear, specific issues. Design intent needs to be clear, but not necessarily extensively resolved at a formal or tectonic level.

In developing proposals, teams are encouraged to carefully consider what issues the project is addressing? How does it respond to the region’s climate and geography in particularly appropriate ways? How does the project respond to the challenges of dispersed communities? To the challenges of energy and infrastructure? To local cultural traditions in modern ways? To seasonal patterns which already exist?

Design responses should focus on building typologies rather than forms. The interest is not in how a building might recall the form or appearance of existing vernaculars, but how it learns from traditional (and contemporary) programmatic or temporal performance. What programs are brought together in ways that leverage local traditions, and produce new collective realms, or new economies? Projects are encouraged to expand notions of sustainability beyond the technical or the building envelope, to consider social, cultural and economic sustainability specific to Canada’s North.

The projects should address two scales: the regional scale and the architectural scale. (See Design Challenge for further elaboration.)

Eligibility
Any student currently enrolled or graduating in 2012-13 academic calendar from one of the five participating schools may enter the Arctic Adaptations competitions. Participating schools are Dalhousie University, University of British Columbia, University of Manitoba, Université de Montréal, and University of Toronto. Each school is running a competition on one of the five designated themes.

Teams
Each team must be comprised of two eligible students (see Eligibility above) from the Université de Montréal.

Registration
Each student team is required to register by emailing register@arcticadaptations.ca by September 15, 2013 if participating in the theme of Education. In the registration email include which school you are registering from, your names, and your preferred contact email addresses. Arctic Adaptations organizers will send your team a registration number as confirmation of registration.

Submission
Each team should consist of two eligible students who thoroughly document their proposal for Arctic Adaptations at the two scales, on two boards sized 24” x 36” laid out horizontally. Board 1 should document a design strategy at the regional scale. Board 2 should document an architectural scale. It is encouraged to include research that supports design intention.
Boards are to be submitted as a PDF with the following filename designation:
registration#_schoolname_1.PDF
registration#_schoolname_2.PDF
More submission information will follow upon registration.
Schedule
July 15, 2013 - Competition opens
September 30, 2013 - Q & A period closes
September 30, 2013 - Registration closes
November 15, 2013 – Submission due
November 25, 2013 – Winner selected
December to January 20, 2014 – Project development with AA design team
June 2014 - exhibition opens at 2014 Venice Biennale in Architecture
2015-16 - exhibition tours Canadian venues

Jury
The jury to select a winning student team will consist of Arctic Adaptations team members including academics, architects, and the Nunavut-based organization.

Prize
One winning team will be selected and have the opportunity to continue to develop the proposal in collaboration with one of the Arctic Adaptations architecture firms and the Nunavut-based organization. This project will be one of five presented in Canada’s pavilion in Venice in 2014. The Arctic Adaptations team will facilitate travel to the north for the selected two-student team, and will work with them in coordinating their role within the design team structure that is suitable to all parties. The selected students will be recognised individually and as a representative of their school.