

Priorities for the 2018 Federal Budget

NAIT Polytechnic
Edmonton, Alberta, Canada
August 2017

As a post-secondary institution, NAIT offers priorities specific to 1) education and 2) research & innovation - aligned with our mandate as a polytechnic.

NAIT defines polytechnic as a particular form of post-secondary institution. Unlike some other Canadian post-secondary institutions, we do not consider ourselves a “specialized university” or “specialized college” that focuses on trades and technology. Rather, we believe polytechnic is a type of institution unto itself, differentiated from and complementary to, universities and colleges. Key to our mandate as a polytechnic is that we provide direct services to students *and* to industry. To this end, we define polytechnic as follows:

- 1) Polytechnics provide technology-based education aligned with the needs of the economy.
- 2) Polytechnics partner with industry in all they do, whether developing curriculum, providing work integrated learning opportunities, determining applied research priorities, or providing innovation services.
- 3) Polytechnic applied research is industry driven and translates knowledge into industry practice. Industry are partners in the research, bring resources to the table, and own the intellectual property that results.
- 4) Polytechnic learning is hands-on and applied to real industry situations, and attracts the best and brightest who also have an aptitude for applying theory to practice.

With this as context, NAIT offers two priorities for consideration for the 2018 federal budget in answer to the questions posed by the House of Commons Standing Committee on Finance. The rationale for each is outlined in the pages that follow.

PRIORITY 1: Enhance support for professional education and training that is specifically aligned with the needs of Canada’s economy – what NAIT describes as polytechnic education.

- a) Create and implement a national public awareness campaign that educates students, their key influencers, and their potential future employers about the value of polytechnic credentials.
- b) Expand the Federal Skilled Trades Program point system to include polytechnic graduates from 2-year industry relevant programs, and provide funding support for polytechnics to develop a comprehensive suite of services to enable the transition of newcomers enrolled in polytechnic programs that lead directly into careers aligned with the needs of Canada’s economy.
- c) Provide funding support for the development of new post-secondary polytechnic programs specifically aligned with the needs of Canada’s energy economy, with a specific focus on enhancing the education of Canada’s skilled tradespeople

PRIORITY 2: Enhance support for applied research and innovation activities that are industry driven and directly support the productivity and competitiveness of our national economy.

- a) Bring consistency to funding mechanisms for applied research, particularly in relation to Tri-Council funding (CIHR, NSERC and SSHRC).
- b) Provide funding support for the development of new programming focused on helping established companies analyze and implement productivity solutions; innovate within their business; and improve existing products and services.

Productivity & competitiveness: The education issues

Education Issue 1: While polytechnic credentials are key to a productive, competitive economy, they are undervalued and poorly understood.

Post-secondary education is widely understood as foundational to personal and economic achievement. At the same time, the need for higher levels of attainment of particular forms of post-secondary credentials – specifically university-based bachelor, masters and PhD credentials – is sometimes questioned. While increasing numbers of students are attaining these credentials (which, whether intentionally or unintentionally, raises the bar for entry into professions), Canada is not seeing a corresponding increase in productivity and competitiveness.

Arguably, past social and fiscal policies have unintentionally elevated university-based bachelor, masters and PhD credentials over shorter, more specialized polytechnic credentials - to the detriment of individuals, businesses and society overall. Increasing the number of students who attain a university based-bachelors, masters or PhD credential has led to higher levels of student debt and delayed entry into the workforce. As more and more job candidates list these credentials on their resumes to the exclusion of others, Canadian business has no choice but to succumb to educational inflation – all the while lamenting the lack of graduates who are truly job-ready, who can problem solve using a strong skill set and knowledge base, and who are able to work effectively within a rapidly changing, team-based environment.

Polytechnic credentials can fill this need. Whether educating the respiratory therapist performing a critical role in the operating theatre, or the crane operator responsible for correctly placing a crucial bridge truss in place, polytechnic credentials need to be recognized as specialized, highly valued forms of education that lead to well-paying careers in a relatively short amount of time - to the benefit of individuals, business and society.

As such, NAIT asks that the 2018 federal budget include the creation and implementation of a national public awareness campaign to educate students, their key influencers, and their potential future employers about the value of polytechnic credentials.

Education Issue 2: Polytechnic institutions are being underutilized as a tool to transition newcomers into the Canadian workforce.

The demand for polytechnic education increases along with Canada's immigrant and temporary resident population. This population, too, is impacted by the underlying societal belief that university-based bachelor, masters and PhD credentials have greater value than shorter, more specialized polytechnic credentials. This bias is demonstrated in the point system, in which a PhD receives a point premium over an applicant with a two year credential. This means that individuals who graduate from polytechnics, despite the fact that they are ready to

join the workforce, may not be invited to apply for permanent residence via Express Entry. The Federal government has already recognized this lack of parity by implementing the Federal Skilled Trades Program whereby skilled applicants are invited to apply for permanent residency despite lower points. This process, if applied to polytechnic graduates from a two-year program, would result in additional qualified graduates entering the labour market.

In many cases, newcomers arrive with experience and skills but little or no documentation. Too often, this results in underemployment, reliance on connections limited to the ethnic economy, and an inability to perform to their potential in the open economy. Polytechnics, with tight ties to industry and expertise in assessment of outcomes and skills, align real competencies with formal educational pathways. With the development of transition services that include authentic skill assessment, credential assessment, bridging programs and targeted advising, polytechnics are positioned to accelerate newcomer entry into the workforce to become economically established. Reducing the average 7-10 years that it takes for qualified immigrants to secure parity with Canadian counterparts (StatsCan 2016) would result in an increase of \$13-17 billion in productivity (Reference to Bloom, M., CBoB, April 2016).

As such, NAIT asks that the 2018 federal budget include an expansion of the Federal Skilled Trades Program point system to include polytechnic graduates from 2-year industry relevant programs, as well as funding support for polytechnics to develop a comprehensive suite of services to enable the transition of newcomers enrolled in polytechnic programs that lead directly into careers aligned with the needs of Canada's economy.

Education Issue 3: The future of Canada's energy economy relies on innovative, agile and timely educational programming.

Energy is a critical component of Canada's economy. NAIT resides within Alberta, a hub of energy development within our country. The continued volatility of the traditional energy sector, coupled with an intense desire to prepare graduates to work within an alternative energy economy, signals a strong need to expand and evolve polytechnic educational programming, with a specific focus on enhancing the education of Canada's skilled tradespeople.

The energy economy of the future relies on new skill sets related to alternative energy. Perhaps more importantly, it relies on the timely evolution of traditional skill sets in trades and technology education that relates to how we will find, harness, store and distribute energy in the future.

As such, NAIT asks that the 2018 federal budget provide funding support for the development of new post-secondary polytechnic programs specifically aligned with the needs of Canada's energy economy, with a specific focus on enhancing the education of Canada's skilled tradespeople.

Productivity & competitiveness: The research & innovation issues

Research & Innovation Issue 1: Industry-driven applied research leading to improved productivity and competitiveness receives less funding than pure or basic research.

Like education, post-secondary research is understood as foundational to economic and social success. However, the challenge of translating research into practice continues. In part, this is because Canada's research

and innovation activities reside along a continuum that includes the long-held traditions of academic scholarship one end, and the need for businesses to rapidly advance technology, improve business process and find solutions to the problems they face on the other. And, to the detriment of our nation, it sometimes appears more attention is paid to the former than the latter.

Again, it could be argued that past social and fiscal policies have elevated the nature of certain types of research over others - to the detriment of Canada's productivity and competitiveness. While funding for applied, industry-driven research has improved somewhat, polytechnic institutions that have a clear focus on applied research - with the goal of increasing productivity and competitiveness within industry - continue to be disadvantaged by funding policies that privilege pure or basic forms of research.

As a polytechnic, NAIT conducts applied research in very specific ways. First, industry demand sets NAIT's strategic research priorities. Second, industry partners in the research, and brings resources to the table. And third, industry owns the intellectual property that results. This polytechnic approach to applied research creates a highly agile environment in which to address the problems most plaguing industry. It has attracted significant industry interest, and is resulting in advances in boreal forest and peat land reclamation, remediation of tailings ponds, and the production and evaluation of sensor-based prototypes that address challenges in resource extraction, to name a few.

However, even with demonstrated success, funding for applied research is not as robust or flexible as funding for basic research, leaving polytechnic institutions unable to fully realize their potential to improve the productivity and competitiveness of Canadian industry.

As such, NAIT asks that the 2018 federal budget include an initiative to bring consistency to funding mechanisms for applied research, particularly in relation to Tri-Council funding (CIHR, NSERC and SSHRC).

More specifically, NAIT asks that funding levels for applied research be balanced with that of basic research, and that grants for applied research be expanded to include the use of funds to help cover the indirect costs of research. Providing more balanced funding, including the ability to use that funding to help offset institutional overhead costs, will unlock tremendous potential for polytechnic institutions to work with industry to drive productivity and competitiveness.

Research & Innovation Issue 2: The need for enhanced support for established companies seeking to become more productive and competitive.

In spring 2018, NAIT's new Productivity and Innovation Centre (PIC) will be complete, with doors open for business by fall 2018. The Centre, a collaboration involving the Government of Canada, NAIT and industry partners, will be approximately 17,650 square meters. It represents a new approach to provide services and solutions to industry through a "one-window", collaborative and more tightly integrated model that nurtures a customer-centric, solutions-driven view, representing a transformative change for NAIT.

Taken together, PIC services and solutions will provide unique opportunities for business and industry clients to meet their needs and challenges and to become more productive and competitive over time.

The vision for PIC in its simplest expression is "The place industry comes to succeed." More specifically, PIC will create value for business through offering productivity, acceleration and applied research services to established companies.

NAIT will rely on industry partnerships and research grant funding to support much of the work in PIC. At the same time, in the early stages of the Centre's growth and development, NAIT would benefit from funding for the

development of programming that helps established businesses improve their productivity and compete on the international stage.

As such, NAIT asks that the 2018 federal budget include funding support for the development of new programming focused on helping established companies analyze and implement productivity solutions; innovate within their business; and improve existing products and services.