- *Revista EDUCAmazônia - Educação Sociedade e Meio Ambiente, Humaitá,* **LAPESAM/GISREA/UFAM/CNPq/EDUA – ISSN 1983-3423 – IMPRESSA – ISSN 2318 – 8766 – CDROOM – ISSN 2358-1468 - DIGITAL ON LINE**

Vol 17, Núm1, jan-jun, 2024, pág. 59-77.

Evolving into a polytechnic: reflections on a decade of change

Evoluir para um politécnico: reflexões sobre uma década de mudança

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ABSTRACT

In 2012, the Saskatchewan Institute of Applied Sciences and Technology, the primary technical-vocational education institution in this Canadian province, was on the cusp of becoming a polytechnic. Beyond a new name, numerous other organizational changes would become evident as this change in form occurred. This paper provides a brief discussion of the history and structure of Technical Vocational Education and Training in Canada, and of the institution within Saskatchewan; the concept of institutional evolution; and the characteristics of a polytechnic. These overviews inform the author's reflection on this organizational evolution, during the decade from 2012 to 2022, demonstrating change in numerous facets of the institution, reflecting both externally and internally driven changes, toward the new form of post-secondary education.

Keywords: Vocational, education, polytechnic, organization, evolution.

RESUMO

Em 2012, o Saskatchewan Institute of Applied Sciences and Technology, a principal instituição de Ensino técnico-vocacional nesta província canadense, estava prestes a se tornar um politécnico. Além de um novo nome, inúmeras outras mudanças organizacionais se tornariam evidentes à medida que essa mudança de forma ocorresse. Este artigo apresenta uma breve discussão sobre a história e a estrutura da Educação e treinamento Profissional Técnico no Canadá e da instituição em Saskatchewan; o conceito de evolução institucional; e as características de um politécnico. Esses panoramas informam a reflexão da autora sobre essa evolução organizacional, durante a década de 2012 a 2022, demonstrando mudanças em inúmeras facetas da instituição, refletindo mudanças externas e internas, em direção à nova forma de educação pós-secundária.

Palavras-chaves: Vocacional, Educação, Politécnico, Organização, Evolução.

EVOLVING INTO A POLYTECHNIC: REFLECTIONS ON A DECADE OF CHANGE

The year 2012 was a significant one for the primary technical-vocational education institution in Saskatchewan. The Saskatchewan Institute of Applied Sciences and Technology (SIAST) was on the cusp of becoming a polytechnic. Beyond the change in name, the institution would evolve into the new role in many other ways during the years to follow. This paper provides a brief discussion of the history and structure of Technical Vocational Education and Training (TVET) in Canada, and of the institution within Saskatchewan; the

concept of institutional evolution; and the characteristics of a polytechnic. These overviews inform a personal reflection on the process of organizational evolution, as experienced by the author, within this specific instance during the period 2012 to 2022.

HISTORY OF VOCATIONAL EDUCATION IN CANADA

The roots of Canadian vocational education, as formally delivered studies, can be traced to the 17th century as the first European settlers landed, bringing patterns of learning through trade schools and apprenticeship with them. From these traditions, vocational education became a secondary choice, when choice was possible: grammar schools and universities were suited to gentlemen's sons and what trades training was available was considered suited to the middle or lower classes (Lyons et al., 1991).

As Canada formed as a country in 1867, constitutional control for education was delegated to the provinces; Canada does not have federal oversight on education at any level, although the federal government has significant influence on the provincial choices through funding programs for training, student supports, and research. This influence can be seen during the past century in Canadian TVET. Through lobbying efforts by industry leaders seeking trained employees for their business needs, government came to support the forerunners of today's TVET through funding programs in the aftermath of the first World War I to some extent through the Depression years of the 1930s, and with renewed interest and funding in the 1940s during and after the second World War (Lyons et al., 1991).

During the 1960s, TVET options increased rapidly at both at the secondary and post-secondary level. The provinces of Ontario and British Columbia, in particular, saw the college system grow dramatically through this decade (Dennison, 1995). In the 2000s, while the colleges remained the training ground for trades apprenticeships and other short-term job preparation programs throughout Canada, a shift to longer programs leading to diplomas, advanced diplomas, and degrees also arose, with some colleges shifting entirely toward the university label, or to become polytechnics (Dennison, 2006).

HISTORY OF SASKATCHEWAN POLYTECHNIC

Within the province of Saskatchewan, the post-secondary education system includes two universities, one doctoral/research focused, the other more generalist; a small number of specialized institutes; a regional college system that delivers programming from the primary

institutions to more remote areas; and a polytechnic as a primary TVET institution. Today's polytechnic began as a vocational college serving returning soldiers after the second World War, developing as federal government funding for vocational education was disbursed across Canada in the 1960s (Saskatchewan Polytechnic, n.d.). As TVET institutions in the form of schools and technical institutes were being established in the late 1960s and 1970s, a network of community colleges also developed in Saskatchewan. In 1985, SIAST was created by combining these technical institutes and local colleges under one banner, with campuses established in the four major cities of the province. While these various bodies were now narrowed to one name and organizational structure, the breadth of expectations arising from the four communities, and multiple post-secondary and adult education purposes, remained (Kalyn, 1983; Saskatchewan Polytechnic, n.d.).

In 2014, SIAST became Saskatchewan Polytechnic (SP) with all the existing expectations, both stated and assumed, plus added powers and responsibilities in the *Saskatchewan Polytechnic Act* (2014). Based on this history, and the relatively small number of post-secondary institutions in the province, SP occupies an especially broad segment within the provincial post-secondary spectrum, with programs ranging from high school level education for adults through to degrees. Students have arrived to study at SP with personal histories ranging from some high school, full matriculation, prior degrees, and years of work experience. No other post-secondary institution in the province offers such a variety of programming to such a diverse group of students.

INSTITUTIONAL EVOLUTION

Evolution as a concept is typically understood through the theories of Darwin (1859) in biological terms. In biology, evolution is considered to be a response to external circumstances and the environment, with long-term adaptation and change aimed at survival and continuation of the affected species. For organizations, however, evolution arises not only from external forces requiring a change response, but also from internal circumstances and decisions, as the individuals within the organization exert their will. "Change occurs because leaders, change agents, and others see the necessity of change," explained Kezar (2001, p. iv) in synthesizing the literature on change in higher education institutions.

Within higher or post-secondary education, certain characteristics differentiate these organizations from those of other types and require consideration when looking at organizational change. Characteristics of higher education that affect change include the organization having interdependency among its units, having a unique culture created over decades or even centuries of existence, the use of multiple authority structures, goal ambiguity both internally and in relation to external stakeholders, and entrenched employee tenure (Kezar, 2001).

TVET institutions can be distinguished from the broader higher education sphere, although the exact definition of this sub-set of post-secondary education continues to be debated (Moodie, 2002). Typically, TVET institution have been defined as closely linked to occupations, and focused on skills development, rather than learning to think in the manner of the liberal arts (UNESCO, 2015). Looking only at TVET institutions, the extent to which the features of higher education identified by Kezar (2001) apply differs from that of universities or colleges. Within the Canadian context, for example, the level of autonomy afforded TVET institutions differs from that accorded to universities,. The bicameral governance of a university system is instead a professional bureaucracy (Schein, 2017). Faculty are viewed as primarily teachers, rather than teacher/researchers. Industry representatives, aligned with the occupations and professions for which TVET institutions train students, have significant influence on program offerings and curriculum versus the expected freedom of individual university professors in their research and teaching (Hogan & Trotter, 2013).

Based on these factors, the evolutionary response has also differed between university and TVET sectors within higher education. In Canada, changes within the university sector in recent decades have been seen as moving these institutions toward a more practical orientation due to the influence of government and industry to develop highly trained workers (Skolnik, 2005); however, this sector remains closely connected to the traditions of liberal arts studies and a focus on research. The ability of universities to resist external influences more so than the institutions within the TVET sector is a reflection of this legislated autonomy, academic freedom, and long history. Within the TVET sector, change has occurred to a far greater extent in recent decades. Dennison (1992; 1995; 2006) documented the significant changes seen in the province of British Columbia as community colleges transformed from offering limited programs focused on training for region-specific vocational education needs to university colleges or universities. Within Ontario, the breadth of program choices within

the college sector has grown substantially over the past two decades (Postsecondary Education Quality Assessment Board (PEQAB), 2022). Throughout the TVET sector in Canada, a significant portion of this change has been the move of colleges and institutes of technology to polytechnics.

POLYTECHNICS IN THE CANADIAN CONTEXT

If all forms of post-secondary education can be thought of as a spectrum, the polytechnic is located in the middle: a relatively new type of institution somewhere between the decades of community college and TVET tradition on one side and the centuries of university history on the other. In Canada, the term *polytechnic* is used primarily by the members of Polytechnics Canada, an organization formed in 2003 to represent "research-intensive, publicly-funded colleges and institutes of technology" (Polytechnics Canada, n.d.). The term, however, is not limited to membership in this advocacy organization; provincial legislation is necessary to enable the use of *polytechnic* as a part of an institutional name and to set the parameters of operation.

Based on the definition from Polytechnics Canada (n.d.), and from practice at the now 13 institutions within its membership, a polytechnic is a post-secondary institution that:

- Combines aspects of college and university programs;
- Measures success primarily through post-graduation employment;
- Offers a broad range of technical and vocational programs, including apprenticeship training;
- Includes applied research;
- Offers degree-level programs;
- Builds curriculum around practical, industry-informed knowledge and experiential learning opportunities.

These are parts of the definition that affect students and are most often seen (if not fully understood) by the public. There are less obvious factors, however, that are defined largely by provincial governments under their responsibility for education in Canada, via legislation and through regulatory bodies affecting institutional autonomy, decision making and academic freedom, as previously described. The polytechnic is typically administered through a provincial government-influenced, or government-approved, board. Decisions are

made by the board and senior executives, rather than through a bicameral system of shared governance between faculty and elected members as typically seen at a university. Funding is closely controlled by the province, rather than the more general allocations to universities. Teaching is the primary activity for polytechnic faculty, albeit with a growing interest in applied research, but largely without the expectations for research and publication that are part of a tenured professor's work (Hogan & Trotter, 2013). Student access to programs at a polytechnic, although increasingly competitive for high-demand programs with excellent employment prospects, is far more open than at university. Taken together, the polytechnic's place in the spectrum of post-secondary education in Canada includes some parts college, some parts university, but most definitely a hybrid between the traditions, with degree granting and significant levels of applied research by faculty as key indicators of evolution from the college form to the polytechnic.

BECOMING SASKATCHEWAN POLYTECHNIC

A decade ago, SIAST was on the cusp of becoming a polytechnic. While outwardly, this change was reflected primarily in the new name of the institution, there was an implied change or evolution expected, based on the path taken by similar institutions in other provinces in their journey toward being a polytechnic, on requirements for degree granting as a key component of the accepted polytechnic definition, and on conceptions internal to the institution of what it means to be a polytechnic.

Setting the Stage for Evolution

In 2012-13, several major changes occurred that set the stage for SIAST to become SP, both in name and as an evolving organization. These included:

Membership in Polytechnics Canada. SIAST was accepted as a member Polytechnics Canada in December 2012, signalling its intention to become a polytechnic in the mode of those already established in the provinces of Ontario, British Columbia and Alberta (SP, n.d.).

Degree Authorization Allowed. Passage of the *Saskatchewan Degree Authorization Act* in 2012 set the stage for post-secondary educational institutions beyond universities, including SIAST, to establish degrees under specific conditions and with the approval of both

the provincial government and the newly appointed governmental body of the Saskatchewan Higher Education Quality Assurance Board (SHEQAB) (Degree Authorization Act, 2012).

SIAST's First Stand-Alone Degree. In 2013, the SHEQAB authorized SIAST to deliver the Bachelor of Psychiatric Nursing degree. This degree was the first to be delivered solely by the institution. A degree in Nursing, delivered in conjunction with one of the provincial universities since 1996, continued (SP, n.d.).

New SIAST President Selected. A new president and chief executive officer was selected by the government-appointed board of the institution, and appointed on July 1, 2012. Coming from an Alberta polytechnic, the new president soon established himself as a change agent who would move SIAST toward polytechnic status. (SIAST, 2012a).

The Name is Changed: SIAST to Saskatchewan Polytechnic

On Sept. 24, 2014, reflecting efforts of the SIAST board and its senior management in influencing this change, the Province of Saskatchewan enacted the *Saskatchewan Polytechnic Act*, and the new name became official. To be Saskatchewan Polytechnic meant, in a legal sense, to be empowered by the provincial government to deliver "courses and programs of study, instruction or training, and related services, in academic, scientific, trade, technical, technological and vocational fields of education," as well as deliver programs with other post-secondary institutions, undertake applied research, and "any other post-secondary education and training-related functions" that the government may allow (SP Act, 2014, Sect 4 (a)).

The act substantially continued the corporation known as SIAST, with a few legislative changes to its powers, under a new name. As SIAST became SP legally through external means, there was also an implied promise of other, substantial changes to be initiated internally. Some early indicators of SIAST evolving into a polytechnic included:

New Image and Marketing. Most visibly, a new logo was designed and institutional colours were chosen. The new logo, a horizontal representation of the name with purple and grey ribbons woven behind the words, a distinctive change from a square logo with a dark blue background with four interlocking hexagons representing the four provincial campuses. The new logo was said to celebrate "the energy, optimism and progression inherent at Saskatchewan Polytechnic" (SP, 2014, n.p.). Over a period of several years, the external signage at the four campuses, website, and documentation was changed to reflect these colours and the new name.

Growth in Applied Research. A small amount of research had been a part of SIAST/SP for many years, particularly in the School of Nursing. The establishment of an Office of Applied Research with a full-time director in 2010, and the allocation of the first full-time faculty position dedicated to research in 2013, marked an intent to make a claim to research space, funding and reputation. Research centres were established at several of the campuses (SIAST, 2014).

Establishment of a Faculty Association. SIAST's employees were represented in collective bargaining and related matters through units of the broader Saskatchewan Government Employees Union since the institution's creation. This arrangement, where SIAST Faculty and support staff were under an established trade union that represented provincial government staff, may have been practical; however, this alignment created an image of SIAST employees as part of the civil service. In 2011-12, faculty members chose to establish a separate unit as the SIAST Faculty Association, differentiating the teaching employees of the institution from government employees. This change arose for various reasons, not simply as a reflection of the change to a polytechnic; however, the desire of faculty to be seen as teachers and researchers was undoubtedly a part of the motivation for change (Saskatchewan Polytechnic Faculty Association, n.d.).

Becoming Degree Granting

A key aspect of becoming a polytechnic, based on formal definitions such as that of Polytechnics Canada and institutional definition (SP, 2018), is degree-level program delivery. With the legal right to develop and deliver degree-level programming under the *Degree Authorization Act* (2012), SIAST applied to deliver the Bachelor of Psychiatric Nursing degree, with authorization given in 2013. (SP, n.d.). This degree built on the diploma-level training within the same field that had been delivered by SIAST for decades and allowed students to leverage the diploma to a degree. This first SIAST degree, while serving a relatively small number of students, led to substantial changes in policies, expectations and culture within SIAST and then SP to support being a degree-granting institution.

Relationship with Government and SHEQAB. The *Degree Authorization Act* (2012) created SHEQAB as an approval body regarding academic quality of degrees outside of established provincial universities. The Act and related documents also set forth the process for approval of new degrees. Specific protection of the universities' rights to the use of certain terms (*university, varsity*) was guaranteed in the Act, as well as implied protection

of their right to offer traditional and established degrees without competition from any new players in the degree-delivery sphere.

Under the *Saskatchewan Polytechnic Act* (2014), SP had authority to grant certificates and diplomas under its own internal quality processes and approvals. For degree programming, however, external approvals were also required. This process remains a distinction across Canada between universities, where the process for degree approval has traditionally been and continues to be internally governed, and colleges/polytechnics, where an external provincial quality assurance agency must approve and monitor degrees (Skolnick, 2016).

The process for SP to have a degree approved included not only the SHEQAB's approval as an arbiter of academic quality but the provincial government's approval regarding the marketability and sustainability of the proposed new degree. Government review required public input, with expected support from industries related to the proposed degree, along with stated or tacit agreement from Saskatchewan universities and other educational institutions for the new degree. A detailed business case proposal for the degree must pass not only this public scrutiny, but that of the Ministry of Advanced Education for the province and be formally endorsed by the provincial government. Only then can the quality assurance process, via the SHEQAB, begin.

Like other Canadian provinces with degree authorization legislation, the SHEQAB follows degree-level standards developed via the Council of Education Ministers, Canada (CMEC) that largely reflect university-style degree expectations for breadth and depth of study, competencies of students upon graduation, faculty qualifications, expectations for research as well as teaching, active participation of faculty in academic decision making, and supports such as library resources (CMEC, 2007).

Relationship with Faculty. Beyond the internal change created by the faculty members themselves through a new association, SP formally restated its relationship with faculty in relation of degree-granting standards. Policy was the primary tool used to establish the institution's relationship with faculty as being one that met the SHEQAB standards, supported degree-level studies, and supported the process for new degree-level program development. As one example, a policy on academic freedom formalized the right of SIAST/SP faculty to engage in research, scholarly activities and creative works with protection of freedom of inquiry, to publish and disseminate the results of research, to

challenge established ideas and to be free from institutional censorship. (SIAST, 2013a). The expected educational attainment of faculty, particularly in degree programs but throughout the organization, rose. The number of faculty and senior academic leaders holding doctorates increased substantially (SIAST, 2012b; SP 2021c). Expectations for conducting and publishing research, while not a formal requirement under any contract with faculty, were conveyed by academic leaders and resulted in a growing body of research for the institution's faculty, especially in degree-level programs (SIAST, 2013c).

Academic Council Creation. Program quality assurance under SIAST relied on a program council to review proposed new programs and revisions to existing ones. The program council was largely controlled by administration, with faculty members chosen by their deans for participation and with final approval on curricular changes in the hands of the deans' council. As a second stand-alone degree was moving through the steps toward authorization, this system was considered inadequate as a quality assurance process. The primacy of peer review in institutions of higher education, particularly those offering degree-level programming, was raised by the SHEQAB panel in its review of the proposal for this second degree. When the degree was authorized in 2017, an expectation was placed upon SP to create a senior academic decision-making body that would mirror academic councils at other colleges and, to some extent universities. in Canada.

The establishment of an academic council signaled a power and cultural shift within SP and was a key evolutionary change toward being a new form of organization. Academic leaders were somewhat hesitant to give up the power they had held over curricular matters, through the appointed program council and deans' council; however, academic council was established in 2017. Its terms of reference provided that there be majority voting representation from faculty members, as chosen by the faculty body. Other voting members included student representatives, regional college representation, and the senior academic deans. It is the senior academic and quality assurance approval body within the institution (SP, 2022).

Growing Applied Research

Applied research – the use of research to solve industry problems – is a key part of being a polytechnic (Polytechnics Canada, n.d.). At SP, applied research has grown significantly in funding, number of projects, and in the number of faculty and students involved in projects during the past decade. In 2011-12, the 15 applied research projects

conducted that year were primarily funded internally and were supported through the newly formed Office of Applied Research and Innovation. By 2021-22, external funding for applied research was $4.2 million and total applied research revenue was $6.2 million. More than 110 projects were carried out by faculty and students during the year.

This growth was fueled by changes to federal government research grant allocations, with more funds becoming available to polytechnics and other TVET institutions, in addition to the traditional university research allocations (Natural Sciences and Engineering Research Council of Canada, 2022). Internally, SP grew through establishment of research chair positions for faculty, and research centres. The first, the Centre for Health Research Improvement and Scholarship, was established as a support to School of Nursing faculty. Other centres, dedicated to research in digital innovation, bioscience, innovative manufacturing, and natural resources followed (SP, 2019).

Internal Evolution

Changes related to degree granting and research were key to the evolution from a technical institute toward a polytechnic. Other changes that occurred were not required by external powers such as the SHEQAB, or implied by membership in Polytechnics Canada, but were internally driven. These changes encompassed the full suite of programs and activities beyond degrees, and changed practices that had long been part of SIAST and SP.

Academic Model Project. SIAST was formed from multiple institutes and colleges within Saskatchewan, each with its own system and practices. As an example, two of the institutes that became part of SIAST used an individualized, competency-based system for student learning and assessment while the other organizations that formed SIAST used a more traditional cohort model of students attending scheduled classes and being assessed simultaneously. Early efforts to create a standardized system across the campuses did result in more consistency, doing away with the competency-based system in favour of the cohort system; however, a great deal of inconsistency across the four SIAST campuses remained (SP, 2016).

In 2014, SP academic leadership began a process to update the core functions and organization of program and curriculum development and delivery, in line with the new institutional status of being a polytechnic, as well as external environmental factors such as changing student demographics and the needs of society and industry. This update, while aligning with the expectations of degree granting quality assurance, was much broader than

just degree programming, touching all types of programs from apprenticeship training through certificates and diplomas. Under the banner of the academic model project, a set of objectives was created and endorsed by senior management for implementation over the next five years.

In some instances, the objective was alignment with the wider higher education sector. One example was the change in the passing grade for courses from a 60 per cent threshold at SP to the much more common 50 per cent line. Having an uncommon passing grade caused confusion when students sought transfer credit, or other institutions' cooperation was sought for joint programming or agreements on sharing curriculum.

Another example was the commitment to include Indigenous content in all program curricula. Reflecting the changing demographics of Saskatchewan as a province, and of the SP student body, the commitment to inclusion of Indigenous content, as well as greater attention to ways of teaching and learning connected to Indigenous culture, was an important change undertaken within the academic model implementation.

Of Saskatchewan's overall population, approximately 17 per cent of people self-declare as Indigenous. Within the age group most commonly attending post-secondary or higher education, from 15-24 years old, the percentage is 24 (Statistics Canada, 2022b). A higher birth rate among Indigenous people in the province has created growth in the youngest age groups, meaning future cohorts would likely include a growing number of Indigenous students. These factors, as well as institutional commitments to supporting broader actions such as those within Canada's Truth and Reconciliation Commission's *Calls to Action* (2015), meant attention was required to teaching and learning more about both history and current realities for Indigenous peoples, for all students, Indigenous and non-Indigenous, as well as faculty.

In other instances, the objective was alignment within the institution rather than to external factors. Given the multi-organizational founding of SIAST, and the relatively slow pace of change within curricular materials, many courses and programs did not align to a standard. As an example, the norm of a credit unit equaling 15 hours of course work was imposed through policy. This standardization brought order – over time – to the previous collection of courses that had ranged from eight to 28 hours per credit unit due to idiosyncratic development of programs at the various campuses.

A strength of SIAST, carried forward to SP, was the use of learning outcomes to structure courses and programs. Outcomes, based on a taxonomy of andragogical learning,

provided a clear structure for the applied learning, and assessment of learning, within a TVET institution (Bloom, 1956, 2011; Knowles, 1980). This existing system, detailed in documents prepared in the early 2000s, was further clarified and greater consistency in use implemented.

These examples demonstrate the difference in change processes between various initiatives. While sometimes influenced by external factors, these changes were not required for degree authorization processes or polytechnic membership. These internal changes also differed from each other in scope and pace. Changing to a new passing grade threshold was done through a policy change and implemented as of a certain date in order to have consistent practice throughout SP. Faculty were expected to adjust their examinations and other assessment tools throughout one academic year, such that the required achievement of students to pass courses was intact but also reflected the new threshold. The integration of Indigenous content into program curricula, meanwhile, was approached as a much slower evolution with significant support from internal departments for faculty and program developers. By June 2023, all programs are expected to demonstrate some level of Indigenous content and teaching practice, seven years after the implementation began; however, it is also recognized that the integration of content will continue evolving and growing with time.

Administrative Evolution. Along with the numerous changes within the academic schools and support areas, SP also has changed in its administrative functions over the past decade. Strategic planning, long done at the highest institutional levels, became a tiered effort with increased consultation and planning among various employee groups and departments of the organization, with a focus on coordination. Examples include the strategic plan (SP, 2020), the academic plan (SP, 2021), and departmental goals building on these plans such as technology enhanced learning and global engagement. In many instances the new plans reflected ongoing work; however, the recent plans provided clearer. more public goal statements for external stakeholders and the internal community.

Increased attention to measuring progress can also be seen in the past decade. To some extent, this was a response to external requirements. The province has increased its focus on indicators beyond enrolment and graduation numbers from all post-secondary institutions. looking for evidence of accessibility, sustainability and innovative practice (Government of Saskatchewan, 2022). SP has also created internal metrics to ensure progress toward the goals of its plans, aligned to the provincial indicators (SP, 2021a).

Funding Changes. The addition of degrees and applied research, two key elements of the evolution to be a polytechnic, come with support costs and required changes to financial allocation. As a snapshot view, the annual reports for SIAST in 2012-13 and for SP in 2020-21 show an increase of approximately 17 per cent in expenditures. During the same period, funding from the provincial government, the primary source of funding for public post-secondary education institutions across Canada, rose only four per cent (SIAST, 2013; SP, 2021a). Inflation, while relatively low during many of these years, is nevertheless a factor in rising expenditures; however, the increase above inflation could be assigned to the new initiatives related to becoming a polytechnic (Statistics Canada, 2022a).

Without provincial funding increases to fully support inflationary and evolutionary changes, SP has funded these changes through increased tuition rates, increased international student enrollment, and other fee increases. This pattern is not unlike most post-secondary institutions in Canada over the same period (SP, 2021a; Usher & MacLennan, 2022).

Discussion

In the past decade, SP has changed in numerous ways, evolving from a technical institute not only in name, and outward signals such as signage at campus buildings, but in policy, processes and practices. To a significant extent, this overall change was driven by the requirements and expectations related to that new name, both those formalized through degree authorization standards and those implied through membership and comparison to other institutions within Polytechnics Canada. Responding to external factors and adapting to them fits with the general definition of evolution, and with that presented by Kezar (2001) specific to higher education.

This evolutionary process, however, was also self-directed: the choice to move from a technical institute to polytechnic was initiated by senior leaders within the organization. Yet, it is unlikely that in the moment of that decision those leaders fully foresaw all the changes that would be required. While set in motion by a deliberate human choice, the resulting decade of changes shows a much more evolutionary model of change as responses over time, adjusting to the environment.

Given the differing definitions of TVET generally (Moodie, 2006), a similar lack of clear definition for the term *polytechnic* within the TVET sector within Canada should be

expected (Doern, 2008; Jones & Skolnik, 2009). Thus, each polytechnic institution is left to define itself, to some extent, while still fitting within the larger category.

For SP, that self-definition has come to include both the general aspects of polytechnic education, and acknowledgement of its own history and place within Saskatchewan. For example, SP offers degrees; however, the number and percentage as a part of the overall program mix is far less than in Ontario (PEQAB, 2021). This difference reflects not only history, with the Ontario polytechnics being established for a longer period, but also the economy and labour needs of Saskatchewan that are less technologically driven and more rooted in resource extraction than Ontario. The development of applied research expertise within SP is also a reflection of the economy and industries around it, with a focus on sustainability, resource use, and agriculture, although with a growing body of digital and technology development, showing the expected growth in these industries within the province.

A third external force that defines what it means to be a polytechnic in Saskatchewan lies within governmental funding and expectations. The province clearly looks to SP to provide education related to industry needs, especially in growth sectors (Government of Saskatchewan, 2019), yet the province has remained generally silent on expectations related specifically to the polytechnic evolution. As previously noted, government funding, which makes up the majority of funding for post-secondary institutions in the province, has remained stable since 2012.

This relative silence from government, in not creating specific expectations related to polytechnic status, can be seen in a positive light. This absence of directives has given SP the opportunity to create its own direction and strategy. Conversely, this silence can be seen as part of a struggle to understand the possibilities of a polytechnic and to capitalize on those possibilities.

Turning to the internal drivers of evolution, one can also question whether SP leadership has, itself, come to a clear understanding of the possibilities of being a polytechnic throughout the past decade, or the bold changes that may be needed to move fully in that direction. SP's strategic plan (2020) established the institutional vision as "to lead the rise of polytechnic education . . . a drive to define the reputation of polytechnic education in Canada and establish its role" (p. 15). The plan does not offer further definition of what *polytechnic education* means to the organization. The academic plan (2021) speaks to the desire to

"collectively define the future of polytechnic education at our institution" (p.1), but similarly doesn't define specifically what *polytechnic education* means.

Mintzberg (2007) debated whether strategy as a plan must precede the pattern of actions, or whether strategy can emerge out of individual actions by those involved in the operation of an organization learning, over time, such that a strategy and change becomes evident. This paper has outlined a pattern of actions at SP over time. Documented strategy within SP has begun to integrate the concept of being a polytechnic. If Mintzberg is correct that strategy can emerge out of actions, a clearer vision of what polytechnic education is and a plan to fully utilize this new form of higher education may emerge for SP in the future.

Conclusion

The theory within Darwin's Origin of Species has been popularly condensed to say that it is not the most intellectual of the species, nor the strongest, that survives, but rather the one that is able to adapt and adjust to the changing environment (Megginson, 1963). If this is true, it may be the TVET sector in Canada, including colleges, technical institutions and polytechnics, that is most likely among post-secondary institutional types to thrive throughout the future.

Skolnik (2002) spoke to a definition of the community college, an institutional type much like polytechnics and often a precursor to polytechnic status in Canada. Commenting that universities have centuries of tradition to rely upon for identity, he noted that colleges have only decades and were created through public policy to address society's changing needs:

> This type of role leads to the following conundrum with respect to defining institutional identity: if the core identity of a community college is that it is a postsecondary educational institution which is dedicated to meeting *changing* societal needs, then it is difficult to fix any other elements of its identity, because those may need to change in order to enable the institution to most effectively meet new societal needs.
>
> In other words, if the essence of the community college is change, then as the college changes, its essence is not changed, because in changing it is only actualizing its essence! (p.4).

In the two decades since this address to Ontario's colleges, many of those institutions have changed to become polytechnics, evolving in various ways and providing an example of polytechnic education to institutions in other provinces. Yet, through this evolution, has the

essence of the institution – regardless of the name it takes – changed? Or, is the dedication to meeting societal needs, which in themselves can be assumed as ever changing, in itself the one constant and overarching essence or definition of colleges? Is this continuing response to external change the driver of ever ongoing evolution, making a firm definition impossible?

In reflecting on a decade of change at one specific institution through this paper, evolutionary patterns can be seen. The name of the organization has clearly changed. Many changes to policy and practices have occurred. But is this evolution sufficient to say the identity or essence of the organization has changed, either in from an internal viewpoint or in the eyes of external stakeholders and society?

As this paper has tried to demonstrate, it is possible to show evolutionary changes within the organization related to a chosen change in form. In the absence of a firm definition for TVET, or its variations including *polytechnic*, it is virtually impossible to demonstrate a full transformation from one to another, since no standard exists to which the new form can be compared. This inability to declare a decisive change of form may reflect not only the lack of definition for this new type of institution, but also the evolutionary nature of change within this sector of higher education.

Although organizational evolution includes a large measure of human decision-making, and is not limited to autonomous adaptation, the ability of individuals and groups to foresee the future is certainly imperfect. Those involved in the evolution of TVET within Canada, and more specifically Saskatchewan, are part of an adaptive process over time. What exactly is a polytechnic or what can it be? That answer is yet to be determined.

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Recebido : 09 de fevereiro de 2023.

Aprovado: 30 de novembro de 2023.

Publicado: 1 de janeiro de 2024.

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