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Centres for Teaching and Learning Across Canada: What's Going On?

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Centres for Teaching and Learning Across Canada: What's Going On?

Abstract

Post-secondary institutions, especially those with a research focus, face a challenge in ensuring consistent and high-quality teaching, in part because many members of the teaching faculty have backgrounds in research instead of teaching. A common part of meeting this challenge is the presence of Centres for Teaching and Learning (CTLs) on university campuses. This study examines the situations of CTL directors at research and teaching-intensive post-secondary institutions across Canada, with an aim to develop an understanding of the current context in which Canadian CTLs are operating, as well as the experiences of those who lead the CTLs. The qualitative study consisted primarily of 60- to 90-minute individual semi-structured interviews. The findings of these interviews were coded into four main categories: the evolving purpose of CTLs, key drivers of change, common challenges, and future trends. The implications for this research are two shifts: one mirroring a shift in education development to embracing Boyer's work and secondly moving from a service to a leadership orientation. A thriving CTL is an indication of a university culture that values teaching, learning and scholarship.

Les établissements d'enseignement post-secondaire, en particulier ceux dans lesquels l'accent est mis sur la recherche, doivent faire face au défi d'assurer un enseignement cohérent et de haute qualité, en partie du fait qu'un grand nombre de professeurs ont des antécédents en recherche plutôt qu'en enseignement. Pour relever ce défi, un des éléments communs est la présence de centres d'enseignement et d'apprentissage (CEA) sur les campus universitaires. Cette étude examine la situation des directeurs de ces centres dans des établissements d'enseignement post-secondaire canadiens où la recherche et l'enseignement sont intenses, dans le but de comprendre le contexte actuel dans lequel les CEA canadiens fonctionnent, ainsi que les expériences de ceux qui dirigent ces CEA. L'étude qualitative a consisté principalement d'entrevues individuelles semi-structurées de 60 à 90 minutes. Les résultats de ces entrevues ont été codés selon quatre catégories principales : l'évolution de l'objectif des CEA, les principaux moteurs de changement, les défis communs et les tendances futures. Les implications de cette recherche sont de deux sortes : la première reflète les variations dans le développement de l'éducation afin d'adopter le travail de Boyer, et la seconde indique le passage d'une orientation de service à une orientation de leadership. Un CEA florissant est le signe d'une culture universitaire qui accorde de l'importance à l'enseignement, à l'apprentissage et à l'avancement des connaissances.

Keywords

centres for teaching and learning, post-secondary teaching, post-secondary education, educational development, university administration, university faculty

Cover Page Footnote

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Background and Introduction

There are 91 Centres for Teaching and Learning (CTLs) at post-secondary institutions across Canada (Educational Developers Caucus, 2017). The core mission for these centres is to engage in educational or faculty development, which is defined as “the field of professional and strategic development associated with university and college learning and teaching” (Fraser, Gosling, & Sorcinelli, 2010, p. 49). Research from other countries has shown that how this core teaching and learning mission is carried out varies among institutions; further, it is more challenging for research-intensive institutions than for those with an exclusive focus on undergraduate education (McKenna & Boughey, 2014). Less information is available from Canada’s research-intensive post-secondary institutions, however, on either of these issues. The Educational Developers Caucus (EDC), a community of practice working within the Society for Teaching and Learning in Higher Education (STLHE), maintains a database on CTL demographics, which contains information compiled from websites and confirmed with CTL directors (EDC, 2013). The database, however, does not record the experiences of those CTL directors. This study explores these experiences and the common themes among them. A generic qualitative method was used to capture the experience of directing a Canadian CTL with a specific focus on those at research-intensive universities.

Literature Review

There are many factors that contribute to teaching excellence. In addition to having education and experience in their subject matter, the excellent teacher also displays enthusiasm for the topic at hand, has the ability to distil complex topics to the appropriate level for the learner to comprehend, and takes risks in using “a measured degree of eccentricity” to help concepts stick (Gibson, 2009, p. 4). Although these factors are necessary, they may not be sufficient because “a teacher’s knowledge base should not be restricted simply to his or her own subject, but also include an understanding of learning theories, e.g. adult learning theory, self-directed learning and self-efficacy, and how to incorporate these into practice” (Gibson, 2009, p. 3). In primary and secondary education, teachers are trained in learning theories and in how people learn, and it is becoming increasingly clear that the same should be true in post-secondary education (McAleese et al., 2013).

Historical Background on CTLs

In the middle of the 20th century, CTLs began to appear in North American post-secondary institutions to address this training need. One of the first was founded in 1962 at the University of Michigan. It was established as a centre for teaching research and provided support for teachers to adopt techniques that had been proven by research to advance student learning (Cook & Kaplan, 2011). As universities have become increasingly concerned with student learning, CTLs have changed their offerings to include workshops, consultations, and funding for research in teaching and learning (Sorcinelli, 2002). Some European countries have gone further and legislated the formation of CTLs; for example, Belgium’s Article 83 promotes student success through the establishment of a higher learning centre to advise, coach, and train teachers; the Republic of Slovenia has a National Higher Education Program (2011-2020) (McAleese et al., 2013).

What CTLs look like and how they function varies. According to Gray and Shadle (2009), it is imperative to “situate the work of your centre within your institutional context” (p. 6) because the success of the centre depends on how it responds to the culture of the institution and the needs of teachers and administrators. An alignment with the priorities of the institution and the needs of the teachers and administrators will give the centre freedom to design particular programs with the highest impact on their own teaching and learning (Gray & Shadle, 2009; Sorcinelli, 2002). Furthermore, an awareness of the local organizational culture, whether collegial, bureaucratic, corporate, or entrepreneurial (McNay, 1995), affects the CTL’s ability to promote and adopt change (Gibbs, 2013).

The appearance and function of individual CTL units change with time (Grabove et al., 2012), as the focus of educational development grows, evolves and matures (Gibbs, 2013). Both Gibbs (2013) and Van Note Chism (1998) note that as CTLs develop, they shift focus from a service to a leadership orientation. This is because the individual teacher cannot effectively improve without their colleagues changing alongside them. Gibbs also notes that there is “difficulty of innovation and permanent change where the local culture and values are hostile to such change, or even hostile to taking teaching seriously” (p. 7). Moving away from an individual focus towards communities also reduces siloes and allows for cross-fertilization of ideas and support (Gray & Shadle, 2009; Sorcinelli, 2002; Sorcinelli & Austin, 2006). Gibbs also described a similar movement in educational development from “atheoretical to theoretical, unscholarly to scholarly” (pp. 9-10). Early texts around teaching and learning, although based on evidence, shied away from making that evidence explicit. More recent texts about teaching and learning, however, are more explicit and confident about the theory and research, promoting evidence-informed teaching practices (Bates, 2015; Gibbs, 2013).

How these centres demonstrate their value to teachers and administrators remains a challenge (Honan, Westmoreland, & Tew, 2013). CTLs support teachers through faculty development programs, and it is imperative to understand the impact of these programs. Although there is increasing literature on alternative methods to measure impact, survey studies have shown that participant satisfaction and number of attendees is the most frequently used measure (Hines, 2009; Kucsera & Svinicki, 2010). Alternative methods move beyond participant attendance and satisfaction and assess the impact of CTL programs on teaching practices and/or on student learning. The former may be assessed through the use of direct observation of practices (Hines, 2009), student surveys about the presence of certain teaching practices (Gibbs & Coffey, 2004), or teacher surveys about changes in teaching practices after attending CTL programming (Gibbs & Coffey, 2004). The latter may be assessed through direct analysis by a specialist (Hines, 2009), pre- and post-intervention testing (Kucsera & Svinicki, 2010), or through the use of questionnaires for students (Sirum & Madigan, 2010).

The purpose of this project was to explore the mission, mandate, deliverables, and role of strategic planning as perceived by the Directors of CTLs working in Canada’s research-intensive universities.

The Study

Research Design

A generic qualitative study design was used. Caelli describes this approach from the work of Merriam (1998) as seeking “to discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved” (Caelli, Ray & Mill, 2003, p. 3). Because our motivation for undertaking this study was to explore the current context of Canadian CTLs

from the perspectives of those involved in the day-to-day functions, we felt a generic qualitative approach was the most applicable. Important considerations in the generic approach include addressing issues related to reflexivity, outlining methods including sampling and interviews, establishing rigour, and finally analysis (Cooper & Endacott, 2007).

Reflexivity. Reflexivity is defined as “sensitivity to the ways the researcher and the research process have shaped the collection of data, including the role of prior assumptions and experience” (Mays & Pope, 2000, p. 51). This project was undertaken as part of the lead author’s four-month Provostial Fellowship. At the time, the lead author had no affiliation with any CTLs, but was and is interested in their approaches to improving teaching and learning, especially in research-intensive post-secondary institutions.

Sample. This study involved a purposeful sample of directors from 14 CTLs. The majority of the CTLs were selected because they were in research-intensive universities. To provide a range of different perspectives, several teaching-intensive undergraduate institutions were also selected. The participating institutions include: University of Alberta, University of British Columbia, University of Calgary, Dalhousie University, Université Laval, MacEwan University, University of Manitoba, McGill University, McMaster University, Université de Montréal, Mount Royal University, University of Ottawa, Queen's University, University of Saskatchewan, University of Toronto, University of Victoria, University of Waterloo, and The University of Western Ontario (U15, 2015). All of the CTLs were independent of Faculties and the directors either reported to a Vice Provost, Vice President Academic, or directly to the Provost. The oldest CTLs were established in the late 1960’s and early 1970’s and were often originally associated with the Faculty of Education. Their original missions were to perform educational research. All of the CTLs started with a small number of staff and gradually increased in size over time, often with mergers from other areas. Today, the number of staff in the CTLs ranges from nine (plus student interns) to 71 (plus student interns). The CTL directors have varied backgrounds (Education, Educational Development, Educational Psychology, Educational Technology, English, Environmental Sciences and Landscape Architecture, Finance, History, Kinesiology, Management Sciences, Physics and Astronomy, Rehabilitation Medicine, Rhetoric and Professional Writing, and Surgery) and had varying lengths of time at the centre (less than 1 year to over 16 years). Few retained faculty appointments concomitant with their role as director. When asked what brought them to their current position, none of the directors admitted to setting a career trajectory to direct a CTL, and many fell into the role serendipitously. Although the directors were not initially aiming to direct a CTL, all were passionate about teaching and learning, and many stated that they had an affinity for administration, which drew them to their current roles.

Data collection. Directors of CTLs were recruited via email from the lead author. Seventeen CTL directors responded to the email invitation, and 14 were interviewed. Sixty to ninety-minute individual semi-structure telephone interviews were conducted in April and May 2015. An interview guide was used and it addressed the following themes: mission and vision, human resources and administrative structures, positioning of CTL in the university, other mandates, deliverables, budget, strategic planning, and idea generation. The interviews were digitally recorded, transcribed, and verified for accuracy by the researchers. Data saturation was achieved after 14 interviews, and similar themes were identified from these interviews.

Ethics and rigour. This project received ethics approval from the Human Research Ethics Board at the University of Alberta. Written, informed consent was received from all interviewees, and all identifying elements were deleted from the transcribed interviews to

preserve anonymity during analysis. The digital audio files and transcribed interviews were stored in a secure location and will be retained for seven years.

Rigour was addressed by establishing credibility, fittingness, auditability, and confirmability (Guba & Lincoln, 1989). The lead researcher, mentored by the two other researchers, conducted all of the interviews using the interview guide as a framework to ensure similar wording and order of questions. Participants who requested a summary of the transcripts validated the findings as representative of their own experience (Streubert & Carpenter, 1999), and an audit trail was established.

Data Analysis

Data analysis was inductive using a generic qualitative approach. Transcribed interviews were imported into NVivo 10 (QSR International Pty Ltd. Version 10, 2012), reviewed by the lead author, and coded based on an open coding system developed through iterative discussions between the research team members (Patton, 2014). As commonalities emerged from the codes, there was consolidation into categories and subcategories. At this point, researchers read the interviews again and recoded into the following themes: aspirations, barriers, community/connections, culture/context, innovative approaches, outcomes/metrics of success, purpose, drivers of change, respect for teaching, and trends. The themes were further reviewed and refined and used in the final analyses. In discussions with the research team, it emerged that the themes could be grouped naturally into four conceptual categories: the evolving purpose of CTLs, key drivers of change, common challenges, and future trends.

Results

Evolving Purpose

Elements that addressed general questions such as “Why have a CTL?” “How can we have a CTL like yours?” and “What should a CTL do?” were coded under purpose. All of the CTL directors agreed that post-secondary institutions should have a CTL because it is one manifestation of the value placed on teaching and on improving teaching at their institution. They also agreed that it would be impossible to simply transplant the approach and structure of one CTL to another centre, as differences in culture, structure, and function between institutions means what works at one centre may not work at another. When asked about what a CTL should do, the answers showed an evolution in purpose. CTLs have moved from remediation, to supporting the individual teacher, to changing conversations around teaching, to providing a base for communities of teachers to grow and supporting and creating evidence-informed approaches to teaching and learning. This evolution of purpose was also noted by Gibbs (2013).

Value. When asked if it is imperative for post-secondary institutions to have CTLs, all of those interviewed agreed affirmatively. One director said, “Yes. Next question. That was easy.” Another stated, “Yes. [CTLs] are essential for institutions to have now if they want to thrive.” It was clear that the leaders believe that having a unit or centre that supports teaching and learning is one way to show that teaching is valued. One director went even further and stated that CTLs embody, or provide a visible form, to the importance of teaching excellence. Because an excellent teacher requires training (Gibson, 2009), the creation and support of a CTL help to demonstrate an institution’s commitment to excellent teaching.

Context. Although all directors agreed that it is imperative to have a teaching and learning support system, they were unable to articulate a simple recipe or plan for creating a CTL. As described by Gray and Shadle (2009), the success of a CTL depends on its response to the culture of its institution. The directors described how their CTLs grew with their institutions, and this led to their perceived intrinsic differences. For example, some CTLs were involved with budgeting for renovation of teaching spaces, while others were not. Thus, the directors made it very clear that each CTL must look at “the characteristics of that institution that it’s respecting and what are the needs that it’s responding to,” in order to fit within the culture and context of their institution. Although one director provided a caveat about context, emphasizing that while some may want what others have, it may not be entirely appropriate for other institutions given their unique teaching and learning environment.

Evolution in the scope of practice of CTLs. Although each CTL has evolved within the context of its institution, the centres do follow similar trends with respect to their scope of practice. All directors stated that the role of their CTLs had changed over time, reflecting broader changes in the post-secondary teaching and learning environment. The original CTL described by Cook and Kaplan (2011) was designed with the goal of providing suggestions to educators on improving student learning. Although an effective and laudable goal, the roles that a CTL may perform have expanded greatly since the 1960s. The directors noted there is still a focus on the individual teachers, but there has been a shift from remediation to support, and a shift from the individual to quality improvement on a broader scale.

In the past, a CTL was perceived as a place of remediation. Remediation was defined negatively – teachers who were struggling, or who had poor evaluations were sent to the CTL so their “bad” teaching could be fixed. CTLs still offer support and services for individual teachers to improve their teaching. This is an important role, because “there [are] always new teachers and so we always need to revisit that because for every teacher [CTL interacts with] that teacher is going to spend 10, 20, and 30 years [teaching] students, for better or worse.” When asked whom they included as “the individual teacher,” most included graduate students, contract academic staff, and faculty members who teach. Although CTLs maintain a focus on the individual teachers, they are also expanding to provide a figurative and literal hub where communities and integrated networks of practice can be built and nurtured. Over time, CTL directors have created links within the university by providing a safe space where “people are more willing to share and gather and innovate...where they feel like there’s less competition” and providing “opportunities for them to engage in meaningful discussion about their teaching practice, as well as to intentionally create connections between working groups and networks that are happening across the institution.” Many CTL directors have expanded their focus beyond their institutions through external reciprocal relationships. This movement from focusing on individuals to a broader focus on building local communities to an even broader focus on building communities beyond their institutions shows an evolution in the scope of CTL practice in the directors’ views. Directors agreed that CTLs are using an evidence-informed approach to support teaching and learning and researching the impact of those interventions to “foster an environment of continuous improvement.”

The shift from remediation and mandatory attendance to support and quality improvement is now drawing people into CTLs, as a place they “have a reason to go in because it’s interesting and it’s fun and exciting and where all the cool kids hang out.” This shift in perception has also had a positive impact on “the way that teaching is being valued.”

Key Drivers of Change

All of the directors agreed that supportive administration was a key driver of change, and that changes in the university strategic plan and teaching and learning technologies also drove change within the CTLs. Student engagement (as evidenced by use of National Survey of Student Engagement (NSSE) data), government mandates, and mergers also drove changes within some CTLs. Furthermore, change is essential to the ongoing health of the CTL (Gibbs, 2013), and must mature, change, and shift as their host institutions do the same.

Administration driving change. All of the directors agreed that for a CTL to be successful, the senior administration must be committed in their support of teaching. There was an emphasis on feeling fortunate to have key administrators such as the Provost or a Vice Provost as “champions,” who understood and supported the CTL. The cited reasons for their support varied from being teaching award winners, past clients, or just sincerely believing in the importance of training teachers.

Strategic plans driving change. For most CTLs, their priorities and goals have changed over the past few years because of changes in the vision, mission, and/or strategic plan of the university related to improving teaching and learning. This alignment contributes to their “embeddedness within the core hierarchy” by supporting the needs and priorities of the institution.

Technology driving change. Emerging technologies have driven some changes in CTLs. The CTL directors made it clear, however, that improving teaching and learning was paramount, and that “the technology support is just part of supporting excellent teaching.” Most of the directors saw their role as reviewing the evidence and providing support for teachers to determine why and how (or if) technology should be used to enrich the outcomes and experiences of students. Some made a clear distinction between the pedagogical and technical components of technology, while others have begun to blur the lines between the pedagogical and technical components, and are not separating the two at an operational level.

Challenges

The perceived value both administrators and instructors placed on research versus teaching was a challenge that many were facing – some stated there was much more emphasis now on research, whereas others noticed a shift from emphasizing only the importance of research towards emphasizing the importance of teaching as well. Many found challenges with getting instructors to use CTL programming, and topics such as credibility, visibility, time, communicating and providing enticing programming, and instructor rewards (evaluation and promotion) were common issues. A third challenge involved uncertainty around budget, administration structure and identity. The final challenge involved metrics – how does a CTL measure what they do and show their value?

Research vs. teaching. Some of the CTL directors felt that research is valued more than teaching at their institution, which presented a major challenge. Some noted that although teaching is still important, research takes up over “half of the institutional budget”. For others, there has been a perceived shift in the rhetoric around priorities, placing teaching on the same level as research, with the perspective that “neither one should outrank the other.” Several directors discussed newly created teaching track faculty streams, but for most, they were unable to describe faculty members promoted solely on the basis of teaching. Some did describe faculty members “not being promoted because of their poor teaching.” Some CTL directors wanted to

eliminate the dichotomy between teaching and research, to maximize the link between the two, and focus on translating the educational research into the classroom context.

Challenge getting teachers to improve their practice by using CTL programming.

Credibility. Being seen as a credible source of information and guidance was a very important factor in getting teachers to use CTL programming. Some of the directors stated that they became involved in teaching administration because they cared about teaching and learning. Time, however, is a problem, because “the gravity of your role sort of sucks you in and you just get further away from the coal face.” So credibility occurred for some by maintaining faculty positions to “maintain closeness... [to] our client base.” For others, credibility was increased by “reorganization...to reposition the centre as a really credible central academic services unit.”

Although some continued to perform their own scholarly research and teaching, others felt it challenging to maintain an academic appointment and teaching load in addition to directing a CTL, and their past credentials in teaching were enough.

Visibility. Questions that related to “How easy is it for teachers to find your CTL?” or “How easy is it for teachers to access your resources?” were included in the subtheme visibility challenges. For most directors, the physical location and virtual space were both seen as challenges for attracting people to the CTL. Poor physical visibility was seen as an indication of the perceived priority that the administration places on teaching. Some felt the lack of visibility reduced unwanted visits, but others felt it reduced access to their services. Several directors described an improvement after moving to a more visible space.

The online presence of the CTL or virtual space was also a challenge for access to services. Faculty want “...a single front door, virtual as well physical, and a very, very clear and easy-to-navigate structure for them to understand how they get support.”

Time. Teachers lacking time to experiment with new teaching methods or technology was another challenge. Some wondered about whether it was a lack of time or an unwillingness to make time because of underlying fear of failure, or the fear of being penalized for failing with new teaching techniques or technologies. Others have created these experimental places, but on a smaller scale for use “in a guided capacity where they’d have people there ready to speak with them about their course context and how they use these tools and these resources.” “And so what we’re trying to develop is a laboratory space that looks like a classroom that allows for unlimited reconfiguration, unlimited technology enhancement, unlimited access to the open Internet in a safe way.”

Safety. Most directors hoped that professors felt safe asking for help in their CTL and that the CTL provided an environment “where they can explore challenging topics or they can admit that they need help ... and where they can navigate that truth.” But this perception of “safety” may change as some CTLs are being asked to evaluate teachers versus helping them with their development.

Enticing programming. Many found it challenging to continually offer courses to improve teaching and show the value of CTLs. Given they did not have automatic clients they constantly had to prove their value. And some CTLs have moved to more strategic offerings initially offering workshops and events and then they had to scale these back.

Evaluation, promotion and tenure, rewards. Some CTL directors identified how changing the processes of evaluating teaching during promotion processes would increase faculty use of CTL programming. There were those that worked at institutions that required faculty to send their teaching dossiers to the CTL and as a result delayed their application because of inadequate teaching. Yet others have been able to guide tenure and promotion

committees in how to effectively evaluate teaching, which has caused a shift in perception and increased use of CTL programming to improve teaching. The directors have observed a change in the quality of materials prepared for promotion.

Uncertainty.

Budget. In 2002, Sorcinelli discussed the significant increase in functions performed by CTLs. In addition to helping individual teachers improve their teaching, expectations of the centres have grown to include “consultation services, funding incentives, workshops”, and institutional undertakings (Sorcinelli, 2002, p. 9). Rarely are these increased functions accompanied by corresponding increases in budget. And so, over time, CTL directors have felt budget pressures. Although some have had funding cuts, others have been relatively shielded, but are still very conscious about being careful and transparent with their spending. One director summarized their situation by stating: “The budget for the centre is quite small. It’s almost exclusively salaries and benefits.” For some they were concerned about only having a few permanent positions, which impacted long term planning and gave an impression that teaching was not valued.

All of the directors agreed that more funding for their CTLs would be helpful. How much more was not clear. One director mentioned the “Report to the European Commission on Improving the Quality of Teaching and Learning in Europe’s Higher Education Institutions” (McAleese et al., 2013):

“Institutions should use at least 10% of their basic public funding for teaching excellence”. Ours represents 0.2%, so we’re about 1/50th of what the recommendation is. Not that I ever expect to get that 10% but even doubling it would be helpful... It’s changed only to match the increased number of staff, and so that’s been a struggle, to have enough actual money left over to fund some projects.

Changing administrative structures. Most CTLs were happy with their current administrative reporting structure, but many expressed concern over what may happen if the people in senior administrative positions changed. One director noted, “It all depends who’s sitting on the chair.”

The identity of the CTL. Some directors expressed uncertainty over where they fit in the university – they are not part of faculties, they are not part of administration, yet their work encompasses both spheres. Some pushed to become part of administration, but then realized that maintaining a hybrid position between teachers and administration was an advantage – their position allows them to work to change the culture around teaching and learning without appearing to dictate those changes (and thereby incur resistance from instructors because of a perception of “top-down” demands):

Metrics. A challenge faced by all of the CTL directors was “proving their worth” and “measuring what they do.” Most use a mixture of quantitative and qualitative data, some built case study examples, others demonstrated partnerships. Others reported their impact directly to their Provost or Vice-Provost.

Future Trends

The CTL directors had many observations on future directions for teaching and learning both locally and internationally. Some of the common themes included: supporting learner

assessment and learning outcomes; providing advice on evidence-informed effective use of technologies; conveying varied perceptions towards MOOCs; enhancing cross cultural competencies; strengthening of governance and policies around teaching and learning; and supporting the scholarship of teaching and learning.

Supporting learner assessment and learning outcomes. Several CTLs are supporting assessment and learning outcomes on a large scale. They felt that to measure and assess the effectiveness of teaching and learning, the outcomes must be clear. There has been a shift from evaluating outcomes for individual courses to those at a program level.

Providing advice on evidence-informed effective use of technologies. E-learning, broadly encompassing technology enhanced, blended and online learning, offers possibilities for flexible learning. A significant role for CTLs is to provide support for teachers, showing them the evidence around informed, effective use of technology in teaching and learning.

Conveying varied perceptions towards MOOCs. Some directors were struggling with the role of massive online courses (MOOCs) in the university, while others were avoiding them completely. Those who were investigating them did so in a calculated way and were very clear about their reasons for creating MOOCs. Those reasons varied from revenue generation, branding, opportunities to experiment and learn, as a recruitment tool, or as a way to share a topic that is unique to an institution. Some institutions have created specific task forces to assess the impact of MOOCs on student learning. Those who adopted them with trepidation viewed them as experimental, and others felt MOOCs were not in the best interests of the university.

Enhancing cross cultural competencies. As the educational culture shifts toward more interconnectedness, many post-secondary institutions have identified international students as a key target demographic. Additionally, as Canadians examine diversity and inclusion practices and reparations subsequent to the Truth and Reconciliation Committee, many CTL directors discussed increased teaching and learning around the First Nations cultures within Canada. “Helping to support the development of cross-cultural competencies across the academic community,” and helping support faculties and students to adapt to and understand different cultures is a current and future focus for many CTLs.

Strengthening of governance and policies around teaching and learning. CTL directors are playing a larger role in issues of policy and strategy related to teaching and learning, which in turn is increasing the value placed on teaching and learning. There are changes favouring teaching and learning in tenure and promotion policies and practices, invitations to CTL directors to engage in strategic planning processes and being part of governance committees.

Supporting the scholarship of teaching and learning. Many directors saw supporting scholarship of teaching and learning as a current and future trend. Boyer’s (1990) definitions of scholarship were referenced frequently, but some created their own definitions for scholarship:

My definition is to foster significant long-lasting learning for all students, to enhance the practice of teaching, and to bring to educators the recognition and reward afforded to other forms of scholarly work.

Discussion

Evolution of Purpose

The value of CTLs to post-secondary institutions. Over the course of this study, it has become apparent that the commonalities between Canadian CTLs are currently twofold. First, CTLs must work internally to keep their programming relevant, applicable, and on budget. Secondly, CTLs must work within the institution to promote their services and change misconceptions that teachers and administrators may have about their work. These findings are similar to American CTLs (Gray & Shadle, 2009; Sorcinelli, 2002), and while the centres in both countries have grown in number and stature since the 1960s, there is still significant work to be done in positioning the CTL as a permanent and essential part of any Canadian post-secondary institution. Providing a framework for alternate discussions about post-secondary teaching and learning is no longer sufficient for CTLs to demonstrate their value. It is imperative that centres continue to find ways to measurably demonstrate their value, and that they actively recruit key individuals within their institution to act as champions for their cause (Honan et al, 2013).

The institutional context of the CTL. The findings of this research clearly support Gray and Shadle's (2009) assertion that a CTL's work must be situated within institutional context. Many directors discussed the significant differences between their institution and others', and the findings support the conclusion that, although best practices may be shared among CTLs at different institutions, the post-secondary institution's culture and historical context play a significant role in shaping its CTL. Although it may be tempting to simply adopt the model of a successful CTL at a different university, the participants suggested directors should first consider their own institution and situation, and take the features that make their situation unique into account before considering adopting a successful framework from another post-secondary institution.

The changing scope of practice. These research findings clearly show the directors understood the history and evolution of the CTLs and how and why they have changed their mandate over time in a similar fashion to American CTLs (Grabove et al., 2012). In CTLs in both countries, teaching excellence is no longer viewed as the purview of a single teacher, but rather excellence emerges from groups of teachers (Gibbs, 2013; Van Note Chism, 1998). Additionally, Canadian CTL directors agreed with the idea of distancing themselves from their historical contexts of remediation, the optics of which have the potential to undermine the CTL's efficacy and effectiveness. As Millis (1994) states, "Without exception, faculty development efforts emphasize positive change, not 'Band-Aids' for troubled faculty. The surest way to kill a program is to identify it with remediation" (p. 457). All directors agreed on the need for focusing on the development of teaching using evidence-informed practices at the theoretical and skill level, similar to American CTLs (Bates, 2015; Gibbs, 2013).

Key Drivers of Change

Administration. Although many of the directors included in this report expressed gratitude toward their institution's senior administration for the support they had received, it is apparent the CTLs are still vulnerable to changing supervisors and institutional strategic plans. This vulnerability suggests that many directors experience traditional, hierarchical leadership models. A few directors were able to receive support from other members of senior

administration who understood the importance of the services provided by the CTL and were willing to act as champions for the centre. Some directors described being “at the table” where they could influence policy and procedure, providing brief glimpses of a sustainable leadership model, but no director described this as the norm at their institution. In the sustainable leadership model, the emphasis shifts away from a single, visionary leader, and moves towards a common purpose (Collins, 2001; Hargreaves & Fink, 2006). This concept of sustainable leadership is similar to the theory of distributed leadership, where in a “learning community, the educational ‘actors’ intentionally share a common mission” (Jäppinen, & Sarja 2012, p. 64). Similar to Sorcinelli, Austin, Eddy, & Beach’s (2006) description of the “age of the learner” where the focus shifts away from the teacher being a “sage on the stage” and towards the teacher acting as a “guide on the side,” researchers writing about leadership theory have shifted away from the individual leader and towards empowering all individuals within an organisation. In both settings, the shift occurs due to the fact that no one individual can demonstrate leadership and knowledge in all contexts (Burke, 2010; Morrison, 2002).

Technology. As has been noted in the themes of this report, emerging technologies have driven a significant amount of change in the post-secondary landscape. Although these new technologies present opportunities for educators to expand their teaching approaches, they also present the challenge of technology creep (i.e., using technology just for the sake of using it). It can be tempting to implement new technology as soon as it becomes available, but the uptake of technology must be slow and deliberate, with careful consideration given to pedagogy (Chickering & Ehrmann, 1996; Ouellet, 2010; Shih & Sorcinelli, 2000).

Challenges

Research vs. teaching. Another message that CTLs must consider is the valuation of teaching and research in post-secondary institutions. As mentioned in the introduction, this study focused on the experiences of CTL directors at research-intensive post-secondary institutions, who may have challenges in promoting the reward and recognition of teaching (Braxton, 1996; Chalmers, 2011; McKenna & Boughey, 2014; Serow, Brawner, & Demery, 1999). Regardless of the specific foci of individual institutions, however, universities must offer high quality education to undergraduate students (Serow, 2000). It is therefore imperative that CTLs work to continuously improve the quality of educators’ approaches, and to champion the importance of teaching as an institutional focus (Chalmers, 2011).

Pushing and/or pulling teachers into CTL. CTL directors and their staff must be viewed as credible sources of information around the practice of evidence-informed teaching. They must also ensure the CTL provides a safe environment for instructors to develop their skills without fear of judgement. This is an issue especially when CTL staff are asked to be involved in summative, rather than just formative, assessments and evaluations. Although it is necessary for educators to be evaluated in a summative way, and although CTL staff would have the expertise necessary to do such an evaluation, staff should be very cautious in becoming involved in evaluating faculty. Sorcinelli (2002) states: “Make sure the program is voluntary, confidential and developmental rather than evaluative...build a firewall between teaching development work and personnel decision-making processes” (p. 14). While earlier American reports suggested putting formative (developmental) feedback and summative evaluation together, others later discouraged the pairing since one review would not perform both functions effectively (Licata, 1986; Meyer, Kay, & French, 1965). One of the common reasons for success in any CTL is the

feeling of safety, that it is a place where questions can be asked without being judged. Being evaluators in this scenario could damage the culture, and such a change should only be undertaken with a clear view and understanding of the potential consequences.

Visibility of CTL within the institution. Nearly all Canadian directors interviewed identified visibility as a past or present challenge for their centres. Sorcinelli (2002) states, “Too often, centers for teaching and learning are perceived as helpful but distant, not well known, hard to find, and on the periphery of campus” (p. 17). The perception is that if the centre is difficult to access (virtually or physically), faculty simply would not come. This can perhaps be linked to the constraints upon faculty time: the resources offered by the centre will be undervalued – or not accessed at all – if professors must work to find them. It is therefore important that, if the CTL is to succeed, it must be as accessible as possible (Sorcinelli, 2002). This accessibility must be both physical, in the location and appearance of the centre, and virtual, in the centre’s online presence (Diaz et al., 2009). It will also be important that the centre reach out to faculty within their institutions, requiring them to do as little work as possible in accessing the centre’s services.

Some directors commented on the way their centre’s physical location represented its perceived value to the institution, as centres in ideal locations seem to be more highly valued than those “tucked under a staircase.” These situations therefore must lead to the creation of concrete visibility strategies, both in respect to marketing campaigns to promote the CTL’s physical space, and in respect to the promotion of the value of the CTL’s programming, through presentations to key decision makers and representation on key decision-making bodies (Sorcinelli, 2002).

Funding uncertainty and constraints. As highlighted earlier in this report, funding for CTLs is always constrained and often uncertain. Directors must be skilled in managing this uncertainty, and they must be perpetually conscious of their spending. Based upon these experiences, it seems unlikely that the funding constraints currently in place in post-secondary institutions will change in the near future. Rather than accepting the lack of funding as an unfortunate reality, however, CTL directors must invest energy into lobbying for change – showing the measurable value of the centre, and convincing the institution to commit to reliable funding for a centre that is imperative to the institution’s success in their teaching responsibility (Eison & Sorcinelli, 1999; Sorcinelli 2002).

Future Trends

As many directors noted, it is important for CTLs to stay relevant to their institutions. This relevance can be shown by taking careful note of emerging trends in post-secondary teaching and learning, and by analyzing and communicating these trends to the faculty and students at their institutions. CTL directors demonstrate their value and how essential they are to the success of the institution by taking the lead on educating the academy on these new trends.

Implications

Although CTLs vary across Canada, as a function of the history and culture of the institution in which they are situated, each CTL sits on a developmental continuum. These findings may be used by an individual CTL Director or by university administrators to set goals and trajectories. Our findings agree with Gibbs’ (2013) notion of evolution where units do not just grow and “do more of the same things” (p. 5). Our findings differ slightly, however, in that

the sequence of steps along the continuum was relatively consistent, and many CTLs continued with some of the same things and built upon them instead of moving completely from one thing to the next (Gibbs, 2013). The sequence described for most of the units started with one-on-one remedial work for struggling teachers and then moved on to workshops for larger groups and facilitating the creation of longitudinal learning communities. Many then began doing research on teaching and learning, and disseminating their findings within and beyond their own institution. Along this continuum two paradigm shifts occurred. The first was a shift in the CTLs that mirrored a shift in educational development in general to being theory and scholarship based (Bates, 2015; Gibbs, 2013). Whereas some of the directors with more experience described a feeling of reticence to overtly foster evidence-informed practice in the past, they described a shift whereby evidence-informed practice is not just promoted but actively created and disseminated as well. Canadian CTL directors in our study are confident about promoting Boyer's principles of the scholarship of teaching and learning, defined as the rigorous, systematic, and evidence-informed study of student teaching (Boyer, 1990). The second was a paradigm shift from a service to a leadership orientation (Van Note Chism, 1998). Although there are many factors that cause CTLs to change, CTLs can also help to drive change at universities by role modelling, promoting and rewarding excellent teaching practice and learning assessments. They can also drive change through the support of policies and procedures around teaching and teaching assessment using evidence-informed practice and by providing support. For these to occur, administrators must consult with, or better yet include CTL directors and delegates, when these procedures and policies are being created.

Our study suggested and directors believed that a thriving CTL is one indication of a university culture that values teaching, learning and scholarship. Chalmers and Thomson (2009) state that provision of teaching development indicates that an institution is committed "to the enhancement, transformation and innovation of learning" (p. 2). Hénard and Roseveare (2012) state,

Support for quality teaching can be manifested through a wide range of activities that are likely to improve the quality of the teaching process, of the programme content, as well as the learning conditions of students. Hybrid forms often prevail in institutions. These can include initiatives such as a centre for teaching and learning development. (p. 7)

A thriving CTL is one well connected with faculties and faculty members, with a constant flow of CTL-based staff going out to faculties and instructors coming into the unit (both physically and online) to improve their teaching. For this flow to occur, CTL directors and administrators must be aware that certain conditions have to be met. First of all, perceptions about the unit must be positive, attitudes around receiving help around teaching must be receptive, and the unit must be visible both physically and virtually. Secondly, communication around events and methods to increase evidence-informed teaching practice are critical. Finally, connection with, and support from, administrators is essential to keep teaching as an institutional strategic priority, and to ensure that the unit receives funding and support (Sorcinelli, 2002).

A challenge voiced by all of the CTL directors related to evaluation of effectiveness. The literature echoes this challenge,

There is a paucity of rigorous examination of the outcomes of academic development. (Devlin, 2008, pp. 12) The questions of whether or not various teacher development interventions actually work and, if so, in what ways such interventions influence skills,

practices, and foci, and/or ultimately lead to improved learning, remain largely unanswered in higher education. (Devlin, 2008, pp. 15)

Most use attendance and participant satisfaction as a measure of value. Assuming that attendance automatically leads to improvements in teaching practice, however, is perhaps optimistic. Further efforts to assess whether teachers have adopted what they have learned, such as active learning techniques and learner-centred course design, would be a good next step, followed by showing that the adoption of these teaching methods have a positive impact on student engagement and learning (Fink, 2013). It is a complex task to make these links between the program and the outcomes, but some have described ways forward. Guskey (2002) describes a five-level model to examine the impacts of a teaching development program that could be applied to programs offered by CTLs. Level one relates to teacher reactions to the program, level two identifies changes in knowledge, thinking or attitudes towards teaching, level three examines institutional level changes in culture, practices or support, level four relates to changes in teacher practices and level five identifies changes in student learning. Chalmers and Gardiner (2015) went further to create and trial an “Academic Professional Development Effectiveness Framework” using quantitative (input and output) and qualitative (process and outcome) measures. A trial of the framework in Australian universities found that it provided a “flexible, comprehensive and educative tool which can be used for both evaluation and planning purposes” (p. 89).

Potential Future Research Questions

After completing this study, several potential future research questions for those studying CTLs were identified.

- Given the diversity of Canadian centres, what are the best sustainable funding models for CTLs?
- How can we better measure the impact of CTL programming on student learning in the Canadian context?
- Should CTLs be centralized, or should they be a hub-and-spoke model, in which satellite centres would deliver on-the-ground immediate assistance?
- What can Canadian CTLs learn from CTLs in other countries?

Addressing these questions may bridge gaps identified in the literature and identify elements within a CTL that could further impact teaching and learning in the Canadian context.

Conclusion

The perception of most Canadian CTL directors in research-intensive universities is that their CTL is well supported. We interpret this support as an encouraging indication of a shift in the post secondary sector towards placing more value on quality teaching, learning and scholarship (Chalmers & Thomson, 2009; Hénard & Roseveare, 2012). Challenges related to the perceived priority of discipline-specific research versus teaching continue, but the directors were committed to championing the importance of teaching and learning and creating a culture of appreciation for faculty development.

We also found that most Canadian CTL directors struggle to find metrics that show the value of the CTL (beyond participant attendance and satisfaction related to program delivery). This is a challenge echoed by other researchers in the literature (Devlin, 2008). However, the Academic Professional Development Effectiveness Framework using quantitative (input and output) and qualitative (process and outcome) measures proved to be useful in the Australian context, and may be an option for CTLs in other countries including Canada.

Each director discussed how their CTL was different from other Canadian CTLs. While the context of each institution influenced how an individual CTL appeared and functioned, examination of the units together revealed that each was at a slightly different stage but on similar developmental trajectories. The first developmental trajectory moves from fostering evidence-informed practice towards actively creating and disseminating scholarship while the second involves moving from a service towards a leadership orientation (Gibbs, 2013; Van Note Chism, 1998).

Our study also revealed several future trends common to each of the Canadian CTLs related to the socio-political climate. These common trends include: creating learning outcomes to show the value of a university degree, keeping up with technologies, broadening enrolment leading to challenges around understanding cross cultural competencies, strengthening governance and policies related to teaching, and supporting and contributing to the scholarship of teaching and learning to optimize teaching practices. Understanding how to compare CTLs with respect to context and stage of development, and future trends is helpful for CTL directors creating strategic plans, and for administrators allocating budgets and conducting unit reviews. With continued support from university administration, faculty, staff and students, a thriving CTL will ultimately support and optimize evidence-informed teaching that promotes student learning.

References

- Bates, A. W. (2015) *Teaching in a digital age*. Retrieved May 31, 2017 from <http://opentextbc.ca/teachinginadigitalage/>
- Boyer, E. L. (1990). *Scholarship revisited*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.
- Braxton, J. M. (1996). Contrasting perspectives on the relationship between teaching and research. In J. M. Braxton (Ed.), *Faculty teaching and research: Is there a conflict?* (pp. 5-14). San Francisco, CA: Jossey-Bass. <https://doi.org/10.1002/ir.37019969003>
- Burke, K. M. (2010). Distributed leadership and shared governance in post-secondary education. *Journal of Management in Education*, 24(2), 51-54. <https://doi.org/10.1177/0892020610363088>
- Caelli, K., Ray, L., & Mill, J. (2003). 'Clear as mud': Toward greater clarity in generic qualitative research. *International Journal of Qualitative Methods*, 2(2), 1-13. <https://doi.org/10.1177/160940690300200201>
- Chalmers, D. (2011). Progress and challenges to the recognition and reward of the Scholarship of Teaching in higher education. *High Education Research Development*, 30(1), 25-38. <https://doi.org/10.1080/07294360.2011.536970>
- Chalmers, D., & Gardiner, D. (2015). An evaluation framework for identifying the effectiveness and impact of academic teacher development programmes. *Studies in Educational Evaluation*, 46, 81-91. <https://doi.org/10.1016/j.stueduc.2015.02.002>

- Chalmers, D., & Thomson, K. (2009) Teaching quality indicators tables, University of Western Australia. Retrieved May 31, 2017 from http://www.web.uwa.edu.au/_data/assets/pdf_file/0008/1886858/Framework.pdf
- Chickering, A. W., & Ehrmann, S. C. (1996). Implementing the seven principles: Technology as lever. *AAHE bulletin*, 49, 3-6.
- Collins, J. C. (2001). *Good to great: Why some companies make the leap ... and others don't*. New York, NY: Harper Business.
- Cook, C., & Kaplan, M. (2011). *Advancing the culture of teaching on campus: How a teaching center can make a difference*. Herndon, VA: Stylus.
- Cooper, S., & Endacott, R. (2007). Generic qualitative research: A design for qualitative research in emergency care? *Emergency Medicine Journal*, 24(12), 816-819. <https://doi.org/10.1136/emj.2007.050641>
- Devlin, M. (2008). Research challenges inherent in determining improvement in university teaching. *Issues in Educational Research*, 18, 12-25.
- Diaz, V., Garrett, P. B., Kinley, E. R., Moore, J. F., Schwartz, C. M., & Kohrman, P. (2009). Faculty development for the 21st century. *Educause Review*, 44(3), 46-55.
- Educational Developers Caucus (2013). *EDC Centres Database*. Retrieved May 30, 2017 from <https://www.stlth.ca/affiliated-groups/educational-developers-caucus/resources/edc-centres-database/>
- Educational Developers Caucus (2017). *Teaching and Learning Centres contact list*. Retrieved May 31, 2017 from <https://www.stlth.ca/affiliated-groups/educational-developers-caucus/resources/tl-centres-list/>
- Eison, J., & Sorcinelli, M. D. (1999). *Improving teaching and learning: Academic leaders and faculty developers as partners*. Presentation at the Seventh AAHE Conference on Faculty Roles and Rewards, San Diego, CA.
- Fink, L. D. (2013). Innovative ways of assessing faculty development. *New Directions for Teaching and Learning*, 2013(133), 47-59. <https://doi.org/10.1002/tl.20045>
- Fraser, K., Gosling, D., & Sorcinelli, M. D. (2010). Conceptualizing evolving models of educational development. *New Directions for Teaching and Learning*, 2010(122), 49-58. <https://doi.org/10.1002/tl.397>
- Gibbs, G. (2013). Reflections on the changing nature of educational development. *International Journal for Academic Development*, 18(1), 4-14. <https://doi.org/10.1080/1360144X.2013.751691>
- Gibbs, G., & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning in Higher Education*, 5(1), 87-100. <https://doi.org/10.1177/1469787404040463>
- Gibson, J. (2009). The five 'Es' of an excellent teacher. *The Clinical Teacher*, 6(1), 3-5. <https://doi.org/10.1111/j.1743-498X.2008.00239.x>
- Grabove, V., Kustra, E., Lopes, V., Potter, M. K., Wiggers, R., & Woodhouse, R. (2012). *Teaching and learning centers: Their evolving role within Ontario colleges and universities. Issue Paper No. 12*. Toronto, ON: The Higher Education Quality Council of Ontario.
- Gray, T., & Shadle, S. (2009). Launching or revitalizing a teaching center: Principles and portraits of practice. *The Journal of Faculty Development*, 23(2), 5-12.
- Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Guskey, T. (2002). Does it make a difference? Evaluating professional development. *Educational Leadership*, 59(6), 45-51.

- Hargreaves, A., & Fink, D. (2006). *Sustainable leadership*. San Francisco, CA: Jossey-Bass.
- Hénard, F., & Roseveare, D. (2012) *Fostering quality teaching in higher education: Policies and practices*. France: Organization for Economic Co-operation and Development. Retrieved May 30, 2017 from <http://www.oecd.org/edu/imhe/QT%20policies%20and%20practices.pdf>
- Hines, S. (2009). Investigating faculty development program assessment practices: What's being done and how can it be improved? *The Journal of Faculty Development*, 23(3), 5-19.
- Honan, J. P., Westmoreland, A., & Tew, W. M. (2013). Creating a culture of appreciation for faculty development. *New Directions for Teaching and Learning*, 2013(133), 33-45. <https://doi.org/10.1002/tl.20044>
- Jäppinen, A. K., & Sarja, A. (2012). Distributed pedagogical leadership and generative dialogue in educational nodes. *Management in Education*, 26(2), 64-72. <https://doi.org/10.1177/0892020611429983>
- Kucsera, J., & Svinicki, M. (2010). Rigorous evaluations of faculty development programs. *The Journal of Faculty Development*, 24(2), 5-18.
- Licata, C.M. (1986). *Post-tenure faculty evaluation: Threat or opportunity?* ASHE-ERIC Higher Education Report No. 1. Washington, DC: Association for the Study of Higher Education.
- Mays, N., & Pope, C. (2000). Assessing quality in qualitative research. *British Medical Journal*, 320(7226), 50. <https://doi.org/10.1136/bmj.320.7226.50>
- McAleese, M., Bladh, A., Berger, V., Bode, C., Muehlfeit, J., Petrin, T., Schiesaro, A., & Tsoukalis, L. (2013). *Report to the European Commission on improving the quality of teaching and learning in Europe's higher education institutions*. Luxembourg: Publication Office of the European Union.
- McKenna, S., & Boughhey, C. (2014). Argumentative and trustworthy scholars: The construction of academic staff at research-intensive universities. *Teaching in Higher Education*, 19(7), 825-834. <https://doi.org/10.1080/13562517.2014.934351>
- McNay, I. (1995). From the collegial academy to corporate enterprise. *The Changing University*, 105-115.
- Merriam, S. B. (1998). *Case study research in education: A qualitative approach* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Meyer, H. H., Kay, E., & French, J. R. P., Jr. (1965). Split roles in performance appraisal. *Harvard Business Review*, 43, 123-129.
- Millis, B. J. (1994). Faculty development in the 1990s: What it is and why we can't wait. *Journal of Counseling & Development*, 72, 454-464. <https://doi.org/10.1002/j.1556-6676.1994.tb00974.x>
- Morrison, K. (2002) *School leadership and complexity theory*. London: Routledge.
- Nvivo qualitative data analysis Software (Version 10) [Computer software]. (2012). Melbourne: QSR International Pty Ltd.
- Ouellet, M. (2010). Overview of faculty development: History and choices. In K. J. Gillespie, D. L. Robertson, & Associates (Eds.), *A guide to faculty development* (pp. 3-20). San Francisco; CA: Jossey-Bass.
- Patton, M. Q. (2014). *Qualitative research and evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.
- Serow, R. C. (2000). Research and teaching at a research university. *Higher Education*, 40(4), 449-463. <https://doi.org/10.1023/A:1004154512833>

- Serow, R., Brawner, C., & Demery, J. (1999). Instructional reform at research universities: Studying faculty motivation. *Review of Higher Education*, 22(4), 411-423.
<https://doi.org/10.1353/rhe.1999.0018>
- Shih, M. Y., & Sorcinelli, M. D. (2000). TEACHnology: Linking teaching and technology in faculty development. *To Improve the Academy*, 18, 151-163.
- Sirum, K., & Madigan, D. (2010). Assessing how science faculty learning communities impact student learning. *Biochemistry and Molecular Biology Education*, 38, 193-202.
<https://doi.org/10.1002/bmb.20364>
- Sorcinelli, M. D. (2002). Ten principles of good practice in creating and sustaining teaching and learning centers. In K. J. Gillespie, L. R. Hilsen, & E. C. Wadsworth (Eds.), *A guide to faculty development* (pp. 9-23). Bolton, MA: Anker.
- Sorcinelli, M. D., & Austin, A. E. (2006). Developing faculty for new roles and changing expectations. *Effective Practices for Academic Leaders*, 1(11), 1-16.
- Sorcinelli, M. D., Austin, A. E., Eddy, P., & Beach, A. (2006). *Creating the future of faculty development: Learning from the past, understanding the present*. Bolton, MA: Anker.
- Streubert, H. J., & Carpenter, D. R. (1999). *Qualitative research in nursing: Advancing the humanistic imperative* (2nd ed.). New York, NY: Lippincott.
- U15. (2015). *Our members*. Retrieved May 31, 2017 from <http://u15.ca/our-members>
- Van Note Chism, N. (1998). The role of educational developers in institutional change: From the basement office to the front office. In M. Kaplan & D. Lieberman (Eds.), *To improve the academy: Vol 17. Resources for Faculty, Instructional and Organizational Development* (pp.141-154). Stillwater, OK: New Forums Press.