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The Changing Landscape of Graduate Teaching Certificate Programs in Canada

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The Changing Landscape of Graduate Teaching Certificate Programs in Canada

Abstract
In a 2014 paper, Kenny, Watson, and Watton analyzed 13 Canadian universities offering graduate teaching certificate programs. This research used the Kenny et al. (2014) framework to provide an update, addressing the following research questions. First, has there since been an increase in the number of graduate teaching certificate programs at Canadian universities? Second, how do the common features of these programs compare to those identified by Kenny et al. (2014)? Third, how responsive are programs to recent trends in graduate teaching development? Key features within program administration, outcomes, structure, assessment, and recognition were examined, as were some current trends in post-secondary teaching. Program-related information was collected from the institutional websites of Canadian universities and verified by program key contacts. Since 2014, there has been a considerable increase in the number of graduate teaching certificate programs, both within and across institutions (from 13 programs at 13 institutions in 2014 to 36 programs at 25 institutions in 2019). This may be impacting how programs are structured and assessed. On the one hand, there appears to be movement towards reducing barriers to access programming, yet this growth may coincide with less resource-intensive program components and assessments. The responsiveness of programming to recent trends in program administration, programming content, and recognition varied.

Dans un article de 2014, Kenny, Watson et Watton ont analysé 13 universités canadiennes qui offraient des programmes menant à l'obtention d'un certificat d'enseignement. Cette recherche s'est appuyée sur le cadre de Kenny et al. (2014) pour fournir une mise à jour et répondre aux questions de recherche suivantes. Premièrement, y a-t-il eu une augmentation du nombre de programmes menant à l'obtention d'un certificat d'enseignement au niveau des cycles supérieurs dans les universités canadiennes? Deuxièmement, comment les caractéristiques communes de ces programmes se comparent-elles à celles identifiées par Kenny et al. (2014)? Troisièmement, les programmes répondent-ils aux tendances récentes dans le domaine du développement de l'enseignement au niveau des cycles supérieurs? Les caractéristiques clés au sein de l'administration des programmes, des résultats, de la structure, de l'évaluation et de la reconnaissance ont été examinées, ainsi que certaines tendances actuelles en enseignement supérieur. Les renseignements relatifs aux programmes ont été rassemblés à partir des sites web des universités canadiennes et vérifiés à l'aide des contacts clés indiqués pour les programmes. Depuis 2014, il y a eu une augmentation considérable dans le nombre de programmes menant à l'obtention d'un certificat d'enseignement au niveau des cycles supérieurs, à la fois au sein des établissements et d'un établissement à l'autre (de 13 programmes dans 13 établissements en 2014 on est passé à 36 programmes dans 25 établissements en 2019). Ceci pourrait avoir des effets sur la manière dont les programmes sont structurés et évalués. D'un autre côté, il semble y avoir du mouvement vers la réduction des obstacles pour accéder à ces programmes, et pourtant, cette croissance pourrait coïncider avec des programmes dont les composantes et les évaluations exigent moins de ressources. Cette réactivité de la programmation aux tendances récentes dans l'administration des programmes, le contenu des programmes et la reconnaissance varie.

Keywords
graduate, teaching, certificate, programs, Canada; niveau des cycles supérieurs, enseignement, certificat, programmes, Canada

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There is a recognized need for teaching assistant training in post-secondary institutions (Chadha, 2015; Love Stowell et al., 2015). Studies have identified several positive outcomes of participating in teaching and learning development, including greater awareness and interest in different teaching practices (e.g., Ash et al., 2009), greater confidence and self-efficacy (e.g., Brancaccio-Taras et al., 2016), and a shift towards student-centred teaching (e.g., Derting et al., 2016). Teaching development opportunities allow graduate students to develop as academics and prepare for their teaching responsibilities, but they also offer a way to make themselves more "marketable" for academic jobs in a shrinking academic job market (Aspenlieder & Vander Kloet, 2014).

Certificate programs have been proposed as one way to foreground the value of engaging in teaching and learning development activities by formally recognizing students' efforts (Kenny et al., 2014). Most graduate certificate programs are offered by Teaching and Learning Centres/Institutes, central support units within an institution that support and enhance teaching and learning in post-secondary education. These programs tend to review instructional techniques and classroom management, with time also dedicated to course design and grading. Program completion is often determined using a combination of assessment strategies (e.g., teaching portfolio, written reflections, teaching practicum) (Ishiyama et al., 2010).

Professionalizing university teaching through teaching certificate programs has become a common practice in many universities (Kanuka & Smith, 2019). In general, certificates can increase the respectability of teaching relative to research (Tice et al., 1998), and they are seen as increasingly important in raising the standard of university teaching (Ginns et al., 2008). Participants in graduate certificate programs report having had their needs met, seeing the time as a worthwhile investment, and having had a positive impact on their future careers (Johnson et al., 2014).

Kenny et al. (2014) examined 13 Canadian universities that offered graduate teaching certificate programs to gain an understanding of the state of those programs in Canada. The authors reported on the programs' administration, intended outcomes, structure, assessment, and recognition. In this article, we re-examine graduate teaching certificate programs in Canada. The purpose of this update was three-fold. First, we were interested in seeing if there was an increase in the number of programs, given the growing demand for formal recognition of graduate students' teaching development. Second, we wanted to explore how common features of those programs have evolved over time. Third, we were interested in examining areas of future study identified by Kenny et al. (2014) related to program administration, programming, and recognition. These areas of foci include recent trends in graduate teaching programming (i.e., postdoctoral fellows, online and blended learning, international students, transferable skills, digital badges, program accreditation) and may provide an indication of the responsiveness of a program's curriculum to meet those trends.

Program Administration: Inclusion of Postdoctoral Fellows

A number of studies have identified postdoctoral fellows' desires for opportunities to develop teaching and learning skills (Nowell et al., 2018). Often, professional development opportunities are designed to support research-focused careers, with little thought given to broader professional skills (Mitchell et al., 2013). Yet, postdoctoral fellows transitioning into academic positions have identified pedagogical skills and teaching experience as key components to preparing them for new academic roles (Rybarczyk et al., 2016). Kenny et al. (2014) did not

include postdoctoral fellows as an area of focus, so it remains unclear the extent to which this group of emerging educators is able to participate in graduate teaching certificate programming in Canada. This research has examined their inclusion.

Program Format: Online and Blended Programming

As more courses at post-secondary institutions move toward an online or blended format (Munson et al., 2016), graduate students and new faculty need to be made aware of approaches to online and blended teaching and learning, and to develop the necessary competencies for teaching in those environments (Hixon et al., 2011; Lane, 2013). Sheffield et al. (2015) proposed that the opportunity to understand the technology and dynamics of teaching in an online environment can be integrated into a graduate certificate program in university teaching and learning. The authors reported on Dalhousie University's blended course model, incorporating online facilitation in their Certificate in University Teaching and Learning, finding that students felt greater awareness, competence, and confidence teaching in an online space. We sought the opportunity to evaluate whether online teaching had been incorporated into other Canadian graduate teaching certificate programs.

Programming: International Students as Teachers

In 2018, international student enrolment in Canada hit record highs, with students primarily pursuing education at the post-secondary level (Canadian Bureau for International Education, 2019). As a result, there has been a corresponding increase in the number of international teaching assistants. These individuals are often preparing to teach in a second language and in an academic environment with unfamiliar norms and expectations around behaviours and communication (Brown, 2008; McCalman, 2007). Meadows et al. (2015) considered the value of offering tailored programming within a graduate teaching certificate program. The authors compared two teaching assistant training programs at Western University—a general program designed for all teaching assistants and a program designed specifically for international teaching assistants—looking at the impact of the training programs on teaching self-efficacy and effectiveness. Focus-group data suggested that international teaching assistants in the international-specific programming were at a more advanced stage of teaching development than their peers in the general program. The present research examined whether programming specific to international students had been incorporated into other Canadian graduate teaching certificate programs.

Programming: Transferable Skills

Acknowledging that most Canadian graduate students will not hold faculty positions (Rose, 2012), Kenny et al. (2014) stressed the importance of communicating the broader transferability of skills developed through graduate teaching certificate programs. The authors suggested that the Canadian Association of Graduate Studies' framework for professional skill development could be used to align certificate programs' outcomes with the transferrable skills developed through the course of the programming. Transferable skills can be defined as "skills that are central to occupational competence in all sectors and at all levels" (Chadha, 2006, p. 19). Examples may include communication, leadership, and critical thinking. The focus on graduate employment outcomes has been top of mind in post-secondary education in Canada for a number of years, but

the shift toward skills and competencies, as highlighted by the resolution of Harvey Weingarten, President of the Higher Education Quality Council of Ontario, to "continue advocating for quality testing programs by determining the knowledge and skill set of graduating students, and replace the term 'learning outcomes' with 'skills measurement'" (Academica Group, 2018, p. 11), has been particularly pronounced in 2018. This research evaluated the extent to which this focus on skill development had been integrated into graduate teaching certificate programming and how it was being communicated, if at all.

Program Recognition: Digital Badges and Micro-Credentials

In conjunction with the shift toward professional skills development, there has been a growing need to document competence in specific skills (de Botton, 2015). Increasingly, universities are turning to digital badges or micro-credentials to reflect learners' skill development. For example, students at the University of Calgary can earn a digital badge from 10 different departments, schools, and university services (University of Calgary, 2017). Meanwhile, five partners across Western University recently participated in a pilot of Open Badges to evaluate the badging platform and feasibility of awarding digital badges (Western University Centre for Teaching and Learning, 2018). A digital badge is "a representation of an accomplishment, interest, or affiliation that is visual, available online, and contains metadata including links that help explain the content, meaning, process and result of an activity" (Gibson et al., 2015, p. 404). This research sought to identify the number of institutions who were incorporating digital badges and micro-credentials into their graduate teaching certificate programs.

Program Recognition: Accreditation

Kanuka and Smith (2019) asserted that teaching certificate accreditation is the only way to provide hiring committees some assurance on what the candidate knows about teaching and learning. Kenny et al. (2014) identified only two of 13 programs with external accreditation, from the UK organization Staff and Educational Development Association (SEDA). However, the Educational Developer's Caucus (EDC), a national community of practice of educational developers in Canada, has since developed its own Canadian accreditation process for teaching development programs. Responding to this increasing need to provide externally accredited programs, the EDC created a working group in 2014 to design and implement a framework, presenting a draft framework to the EDC Executive in June 2016 (Popovic et al., 2018). The present study sought the opportunity to examine whether external accreditation via SEDA, the EDC, or beyond, had gained traction since Kenny et al.'s (2014) research.

Method

This research used the Kenny et al. (2014) methodology to provide an update on teaching certificate programs for graduate students in Canada. In keeping with the approach used by Kenny et al. (2014), the Society for Teaching and Learning in Higher Education's (STLHE's) list of institutional members was utilized to create a list of Canadian universities to analyze in the research. In this case, the 2018 list was used, yielding 46 eligible universities. Program-related information was collected by the authors from the institutional website of each university and qualitatively coded using a structured Excel spreadsheet at both the program (i.e., individual

certificate programs) and institutional (i.e., individual universities, each of which may have one or more individual certificate programs) levels. Binary coding was used to reflect the presence/absence of program details. For example, presence/absence of written reflections (i.e., included or not included in the program requirements). Intended learning outcomes were coded using thematic content analysis to identify common themes.

In addition to the key features examined in the Kenny et al. (2014) research (namely program administration, program outcomes, program structure, program assessment, and program recognition), we also made several additions based on recent trends in post-secondary education and Kenny et al.'s (2014) recommendations for future research. The specific features we examined are outlined in Table 1.

Table 1

Program Characteristics for Each Feature Examined

Feature	Program Characteristics
Program Administration	Program participants
	Who offers the programming
	Program fees
	Enrolment capacity (maximum, reaching capacity, attrition)
Program Structure	Program structure
	Set length
	Prerequisites
	Online and blended components
	Mentorship
Program Assessment	Assessment of program completion
	Workshops (number, length, required)
	Written reflections
	Discussion
	Lesson planning
	Teaching experience (practice, observation)
	Course design
	Scholarship of Teaching and Learning (SoTL) (development, research presentation)
	Teaching philosophy/portfolio
Program Outcomes	Intended learning outcomes
Program Recognition	Recognition upon completion
	Badges/micro-credentials
	Program accreditation
Program Content	Online and blended learning
	Transferable skills
	International students as teachers

In an effort to verify the accuracy of the data, representatives for each identified program (typically the educational developers responsible for graduate programming) were contacted via email, telephone, or both if needed, to ensure that the information coded was correct. Data were then updated to reflect the information provided by program representatives. Data collection and

verification took place between November of 2018 and June of 2019. As the research relied on publicly available information, ethics approval was not required.

Results

Twenty-seven institutions were identified as having at least one graduate teaching certificate program. Of those, 25 institutions responded to requests to verify the data and were included in the present research (see the Appendix for a full list of the institutions, along with their corresponding certificate programs). In total, 36 graduate certificate programs were identified across the 25 institutions. One certificate program was most common (n =18) followed by two certificate programs (n =5). The maximum number of certificate programs at any one institution was five. This is a considerable increase in not only the number of institutions offering a graduate teaching certificate program, but also in the number of programs offered at a given institution. The 13 programs that Kenny et al. (2014) identified were reflective of one of two program structures: "those that involve the completion of distinct, separate, and often sequential individual certificates that make up the program as a whole; and those that are simply a single, continuous program" (p. 8).

Table 2 provides an overview of results for which a direct comparison of program characteristics from 2014 and 2019 was possible. Subsequent sub-sections elaborate on these findings and include additional characteristics that were examined as part of this research.

Table 2
Comparison of Program Characteristics from 2014 and 2019

Feature	Program Characteristics	2014	2019
Program Administration	Program Participants	All programs included internal graduate students 23% included internal and external faculty, plus external graduate students	All programs included graduate students 42% of programs included postdoctoral fellows 22% of programs were also available to undergraduate Teaching Assistants 22% of programs were also available to sessional instructors
	Program Fees	54% of programs charged a fee	Only 3 programs (8%) charged a fee to access programming, of which 1 was a returnable deposit

Feature	Program Characteristics	2014	2019
	Enrolment Capacity	54% of programs had unlimited capacity Most programs with capped enrolment had a maximum of 20 to 30 participants, with a range of 5 to 60 Wait-listing was common for all programs, suggesting capacity was regularly reached	36% of programs had unlimited capacity Most programs with capped enrolment had a maximum of 20 to 30 participants, with a range of 4 to 60 Of the 23 programs with a maximum capacity, 52% regularly reached it
Program Structure	Set Length	Most programs were one to two years in length	39% of programs had a set length in which participants must complete the requirements, ranging from one to two terms (29%), one to two years (43%), or several consecutive days/ weeks/weekends (29%)
	Online and Blended Components	31% of programs included online components, usually as optional online versions of face-to-face offerings	58% of programs included online and blended elements, including blended courses, online workshops, and online micro-teaching
	Mentorship	46% of programs included some form of teaching mentorship	28% of programs included some form of teaching mentorship
Program Assessment	Workshops	62% of programs included workshops/seminars	75% of programs included workshops
	Written Reflections	38% of programs included written reflections	69% of programs included written reflections
	Teaching Experience	62% of programs had participants practice teaching	75% of programs had participants practice teaching
	Research presentation	23% of programs had participants give a research presentation	17% of programs had participants give a research presentation

Feature	Program Characteristics	2014	2019
	Teaching Dossier/ Portfolio	69% of programs had participants develop a teaching dossier	44% of programs had participants develop a full teaching dossier/portfolio 64% of programs had participants write a teaching philosophy statement
Program Recognition	Recognition Upon Completion	69% of programs awarded a Centre-approved certificate 23% of programs awarded a Senate-approved certificate 13% of programs included a co-curricular transcript notation 46% of programs included a transcript notation	58% of programs awarded a certificate 28% of programs awarded a Certificate of Completion 14% of programs awarded a Diploma or Letter of Accomplishment 31% of programs also included a transcript notation
	Program Accreditation	13% of programs were externally accredited by SEDA	7 of 36 programs (19%) were externally accredited, 2 by SEDA and 5 by the EDC

Program Administration

As with Kenny et al. (2014), all 36 programs were offered to internal graduate students, though five programs were restricted to or prioritized for PhD students. In addition to graduate students, many programs were also available to postdoctoral fellows (42%), undergraduate Teaching Assistants (22%), and sessional instructors (22%). In 2014, 23% of institutions extended their participant criteria to include internal and external faculty, as well as external graduate students. Twenty-three of 36 programs specified that one or more parts of their programming had an enrolment capacity (64%), an increase compared to the number with a limited capacity in 2014 (46%). This increase may be a result of also accounting for enrolment capacity at the program component level. As Kenny et al. (2014) note, “unlimited” programs may in fact be limited at the course level. Consistent with the findings from 2014, a range of 20 to 30 participants was most common; the average maximum capacity, of programs that had a capacity, was 27. Anecdotally, Kenny et al. (2014) reported that wait-listing was frequent throughout all programs, suggesting that demand often exceeded capacity. Recognizing that wait-listing may not be a common practice at all institutions, we instead evaluated whether each institution’s program(s) regularly reached capacity. Of the 23 programs with an enrolment capacity, 12 (52%) reportedly regularly reached it, and six experienced attrition issues.

In 2014, there was a reasonably even split between programs that charged participants a fee (54%) and those that did not (46%). In 2019, only 3 of 36 programs (8%) had any fees associated with accessing their programming, of which one such fee was a deposit that would be returned upon program completion; fees ranged from $50 to $357. This considerable decline in

the percentage of programs charging fees points to a movement towards making programming more freely available to eligible program participants.

Building on our knowledge of program administration, our investigation also examined who offered the certificate programming. Centre/Institute staff were most commonly identified (89%). Graduate students, meanwhile, were involved in offering programming for 12 programs (33%) at eight institutions, either as paid employees or in partial fulfillment of their own certificate program requirements. Programs that did not rely on Centre/Institute staff to offer programming made use of faculty and/or sessional instructors. In total, faculty/sessional instructors were involved with program delivery in 15 programs (42%) at 13 institutions, often in the form of teaching apprenticeships or mentorship. Lastly, 16 programs involved collaborations with campus partners as part of their program offerings (44%), at nine institutions.

Program Structure

Nineteen of the 36 programs (53%) required a single component (e.g., a course), while 17 programs (47%) had multiple separate components that made up the program as a whole. The number of required program components ranged from two to five, with three components being the most common (n =7). Most of the 17 programs with multiple components were flexible in terms of the order in which components could be completed (n =11), though six programs required that components be completed in a sequential order. Some programs also had flexibility as to how participants could complete certain requirements. For example, for one program, participants could choose from a credit course or a teaching and learning project to fulfill a theory option. Of the seven institutions who offered multiple certificates, five programs required the completion of a novice/foundational certificate to register for successive, more advanced programs.

Programming took various forms, including credit courses, workshop series, teaching practicums, mentorship, and self-directed projects. Workshop attendance was a core component of 75% of programs at 20 institutions, up from 62% in 2014. Given that the 2014 figure reflected both seminar attendance and workshop attendance, the rise in workshop attendance seen in 2019 may be even more robust than the 13% increase reported. In 2019, the number of workshops per program ranged from five to 25, with an average of nine workshops per program. At the institutional level, this translated to an average number of 23 total workshop hours. The total number of hours of workshops per program ranged from four hours to 46 hours, with an average of 16 hours per program. Individual workshops were typically one to two hours in length. Of the 27 programs that incorporated workshops, 14 programs required participants to attend one or more sessions on specific topics. The focus of required workshops was quite diverse, with 54 distinct topics (e.g., active learning, marking). Workshops on teaching portfolios (n =4) and lesson planning (n =3) were most commonly required across institutions.

Fourteen of 36 programs (39%) had a set length in which participants must complete the program requirements. Six of these programs had a set length of one to two years, previously reported to be the most common program length (Kenny et al., 2014). Four programs were designed to be completed in one to two terms, and another four programs could be completed over several consecutive days or weeks within a term. Finally, two programs offered a two-week intensive version of their regular programming. This movement towards offering more condensed programming may relate to concerns about the impact of pedagogical training on students' time-to-completion rates (Norton et al., 2010).

The number of hours of programming per individual certificate program (not factoring in the summative hours for novice/foundational programs required as prerequisites for successive programs) ranged from 12 to 70 hours, averaging at 36 hours of programming. These numbers reflect time spent in-person or viewing online modules, and do not include work time outside of class. The amount of out-of-class time needed to work on program requirements is likely to vary considerably depending on the program components. For example, completing a self-directed teaching and learning project would require a much greater time investment than completing a post-workshop reflection.

Fifty-eight percent of programs incorporated online and blended elements, up from 31% in 2014. At the institutional level, this increase is even greater, with 68% of institutions offering some form of online and blended programming. Kenny et al. (2014) reported that online components were usually in the form of an optional online version of the face-to-face course offerings. In 2019, online workshops or modules remained the most common form of online program offerings (n =13), but some programs relied exclusively on this online content, rather than offering it as an equivalent option. A blended course was a form that online and blended programming took in seven of the programs, while teaching online was a form that it took in two of the programs. Taken together, these findings suggest that the provision of online content is becoming more ingrained within graduate teaching certificate programming.

The integration of mentorship within programs experienced a sizable drop from 2014 to 2019. In 2014, almost half (46%) of the certificate programs examined included some form of teaching mentorship, between instructors and graduate students as well as between peers. In contrast, only 28% of programs had formal mentorship as part of their programming in 2019, at nine institutions.

Program Assessments

Attendance was one of the most common methods of program assessment identified by Kenny et al. (2014), the value of which the authors questioned in terms of the quality of feedback participants received on their development. In 2019, attendance was still a common program assessment practice (61%), as was assessing participants on a pass/fail basis (36%). In either case, many programs also required completion of written work or other course requirements in addition to attendance. We expanded on the original list of common assessment strategies to evaluate how participants' success in attaining programs' intended learning outcomes was gauged. As Kenny et al. (2014) noted, these practices can either be embedded within a program component or a standalone requirement, with most programs making use of a combination of several assessment strategies.

Engaging in teaching was the most commonly used assessment strategy across programs, centered around teaching experience, including practicing teaching (75%), having your teaching observed (75%), developing a lesson plan (69%), and observing somebody else's teaching (58%). At the institutional level, teaching practice was required at almost all institutions (88%). This was up from 2014, when only 62% of programs required practice teaching as part of their programming. In terms of types of teaching practice, in 2019, 14 programs had participants engage in micro-teaching, seven programs had participants give a full lesson, and four programs had participants take part in an Instructional Skills Workshop (ISW). Teaching observations were largely peer-based, with only one program also having participants observe a faculty member's teaching. There was greater diversity in having one's own teaching observed, with 15 programs

requiring teaching observations done by peers, six programs requiring teaching observations done by faculty, and four programs requiring teaching observations done by Centre/Institute staff.

At the institutional level, development of a teaching philosophy statement was the most common assessment strategy, with 23 institutions (92%) requiring that participants articulate their philosophy towards teaching. This percentage drops to 64% when looking at individual programs that required development of a teaching philosophy statement. This makes sense as it would be redundant to have program participants create their statement in more than one program, successively, at institutions where more than one program is offered. In either case, development of a teaching philosophy statement was more likely than development of a full teaching portfolio. From 2014 to 2019, there was a dip in the percentage of programs requiring full teaching dossiers/portfolios (69% in 2014 versus 44% in 2019). However, this decrease was less pronounced at the institutional level, with 60% of institutions requiring development of a teaching portfolio as part of one or more of their programs. This tendency to favour less labour-intensive options was also evident in other types of program assessment. For example, the number of programs (33%) or institutions (40%) requiring participants to design/redesign a course was less than the number of programs (69%) or institutions (80%) requiring development of a lesson plan.

Kenny et al. (2014) spoke to the importance of providing opportunities for reflection as part of graduate teaching certificate programming, a sentiment that corresponds with the curriculum of the programs examined in 2019. In 2014, only 38% of programs required written reflections as a form of assessment, whereas in 2019, 69% of programs at 18 institutions included written reflection as a requirement or possible requirement of one or more of their programs/program components. Moreover, 72% of programs at 20 institutions required that participants engage in discussions, which can also be reflective in nature.

Kenny et al. (2014) anticipated that SoTL would gain in momentum as a focus in graduate teaching certificates. They found that over half (54%) of the institutions' programs that they examined included outcomes related to SoTL. However, in 2019, only 11 of 36 programs (31%) at 12 institutions required engagement in SoTL as a requirement/possible requirement of one or more of their programs/program components. Of those 11 programs, four specified that participants complete a SoTL review (e.g., annotated bibliography, literature review), two that participants develop a SoTL research proposal, and three that participants complete a SoTL project. The percentage of programs requiring participants give a research presentation experienced a decline as well, from 23% in 2014 to 17% in 2019. It is worth noting that one institution had developed a separate certificate program structured around a SoTL project. However, because the program's intended audience was primarily faculty, instructors, and staff as opposed to graduate students, it was excluded from the present analysis.

Program Outcomes

Kenny et al. (2014) identified two broad categories of intended program outcomes: (a) practical aspects of teaching (e.g., lesson planning, assessment, student engagement), and (b) outcomes related to SoTL (e.g., teaching informed by scholarly research, development and dissemination of SoTL). They found a relatively even split between these two categories of outcomes. We distinguished program outcomes at a more granular level, focusing on outcomes related to the commonly identified assessment practices, and content of topical relevance, as identified by the specific programming content examined (i.e., online and blended learning, international students, and transferable skills).

As the most commonly used assessment practice, it is unsurprising that practice teaching emerged as the most frequently identified program outcome, with 72% of programs having one or more outcomes associated with teaching practice. Related themes of teaching enhancement (using feedback to improve teaching, plans for continued development), the teaching principles of constructive alignment (courses, lessons), and a learner-focused approach (learner-centeredness, active learning, student engagement) were also emphasized in a number of programs as separate intended outcomes. Specifically, 47% of programs included outcomes related to teaching enhancement, 41% of programs highlighted constructive alignment, and 31% of programs contained learner-focused outcomes. Teaching portfolio-related outcomes similarly reflected the frequency with which a teaching portfolio was used as an assessment practice, with 47% of programs identifying outcomes related to teaching portfolios/dossiers (including teaching philosophy statements).

When SoTL-informed teaching was included (i.e., coded) as part of SoTL-related outcomes, it yielded 44% of programs with this type of intended outcome, a decrease since 2014 when the percentage of programs with SoTL-related outcomes was 54%. When SoTL outcomes were restricted to analysis/development of SoTL, 31% of programs had this type of outcome, which aligns with the percentage of programs that required participants to engage in SoTL.

Reflective practice was identified as an outcome in 56% of programs. This percentage is less than the percentage of programs who incorporated written reflections as part of their programming (69%). A greater disconnect was found between programs requiring participants to engage in discussion (72%) and programs identifying discussion as an intended program outcome (25%).

Of the specific programmatic content areas examined (i.e., online and blended learning, international students, transferable skills), transferable skills were most commonly identified as a specific program outcome (25%). Interestingly, career preparation as an explicit intended program outcome, most often described in terms of an understanding of academic life or a teaching career, was mentioned in only 13% of programs. With respect to teaching with technology, 22% of programs had a related intended program outcome. However, this category included both online and blended learning, as well as learning technologies, the latter of which was identified far more frequently (n =6 vs. n =2). International students as teachers was captured in the broader category of inclusivity in the classroom, which was identified in 19% of programs. There is some discrepancy in terms of the percentage of programs incorporating content on these topics relative to those with related intended outcomes, no doubt a reflection of the degree to which this content has been integrated into a program. As noted previously, these topics are often incorporated as individual workshops. Several programs broadly identified outcomes related to issues/trends in higher education as an intended program outcome (25%), which may offer more flexibility in incorporating content of topical relevance within a program.

Peer-related outcomes were common in 50% of the programs examined. This included both outcomes related to peer development through the provision of feedback, as well as connecting with one's peers. The high number of programs emphasizing engagement with one's peers points to the importance of programs like graduate teaching certificates in developing teaching communities among graduate students and postdoctoral fellows.

Program Recognition

In 2014, the most common method of recognition was a Centre-approved certificate (69%). Eighty-five percent of programs that issued Centre-approved certificates paired their certification with a more formalized method of recognition, often a notation on a co-curricular (13%) or official university transcript (46%). In 2019, 21 of 36 programs (58%) awarded a certificate upon completion of the program, 10 (28%) awarded a Certificate of Completion, and five (14%) awarded a Diploma or Letter of Accomplishment upon completion. Eleven of the programs (31%) included a notation on participants' transcripts. Only two programs (6%) at two different institutions awarded a digital badge or micro-credential upon completion of the program. As in 2014, it was common for more than one method of recognition to be issued for completion of a single program.

In 2019, seven programs (19%) were externally accredited across five institutions. Of those, two programs were accredited by SEDA, and five were accredited by the EDC. One of the two SEDA-accredited programs, we were informed, would be transitioning to EDC-accreditation upon renewal in the summer of 2019. This is a slight increase in the number of accredited programs from 2014, when only two programs (15%) had external accreditation, both of which were accredited through SEDA. However, there is a clear movement towards EDC-accreditation, which could point to future growth in this area.

Program Content

Of the emerging trends in teaching and learning topics examined in this paper (i.e., online and blended learning, transferable skills, and international students as teachers), programs were most likely to incorporate content on online and blended learning as part of their programming (42%). The extent to which online and blended learning was integrated within a program varied considerably, ranging from a workshop topic/course unit to an entire certificate program on online learning. It was found that 36% of programs had content focused on transferable skills as an explicit part of programming, most often as a workshop topic, with communication skills being most frequently highlighted. One third (33%) of programs incorporated content on international students as teachers as part of their programming. One institution had developed a separate program, not captured in this research, on communication for international graduate students, which encompasses teaching in a Canadian classroom, as part of its programming. As the program's focus was not on teaching and learning specifically, it was excluded from the analysis. However, the existence of such a program points to a movement toward increasingly specialized graduate certificates.

The above program content percentages increase at the institutional level, when considering institutions with multiple programs. Online and blended learning (44% institutionally vs. 42% at the program level), and international students as teachers (36% institutionally vs. 33% at the program level) experience a slight increase in terms of incorporation at the institutional versus program level. The increase was even greater for programming focused on transferable skills (44% institutionally versus 36% at the program level).

Conclusion

This research sought to evaluate whether there has been an increase in the number of graduate student teaching certificate programs at Canadian universities since 2014, and how the common features of these programs compare to those identified by Kenny et al. (2014). Within the span of five years, there has been a considerable increase in the number of graduate teaching certificate programs, both within and across institutions. This is likely, in part, due to the small number of post-secondary teaching positions available compared to the increasing number of PhDs (Maldonado et al., 2013). Postdoctoral fellows, another category of participant not previously considered, were able to access almost half of the examined programs. Due to the high level of competition for teaching positions within academia, many graduate students feel the need for more support in developing their teaching skills in addition to professional skills (Sekuler et al., 2013). On part of institutions, there may now be an expectation that Teaching and Learning Centres/Institutes provide formal teaching development through such certificate programs. However, this increase in graduate teaching certificates may be impacting how programs are structured and assessed. On the one hand, there appears to be movement towards reducing barriers to accessing programming. Most notably, from 2014 to 2019 there has been a significant decrease in the number of programs that charge a fee or deposit. A number of structural changes in how programs are offered also serve to make programming more accessible, specifically a reduction in the length of programming, an increase in online and blended components, and flexibility in program offerings. Yet, this growth may come at the cost of more resource intensive program components and assessments, in favour of less resource-intensive options, namely: greater reliance on teaching philosophy statements rather than full teaching portfolios, a decrease in the incorporation of mentorship, an increase in the inclusion of workshops, and an increase in online and blended elements.

The extent to which key trends in teaching and learning in higher education (e.g., online and blended learning, international students, and transferable skills) were integrated within a program varied considerably, ranging from a workshop topic/course unit to a separate certificate program. There is also some discrepancy in terms of the percentage of programs incorporating content on these topics relative to those with related intended outcomes, no doubt a reflection of this variability. For example, of the specific content areas examined, transferable skills was most commonly identified as an explicit program outcome, typically citing the development of communication skills. Yet, programs were most likely to incorporate content on online and blended learning as part of their programming, suggesting there is limited effort to actually articulate and measure transferable skills development. This particular example aligns with Kenny et al.'s (2014) call to communicate the broader transferability of skills developed through certificate programs, recognizing that many program participants will not go onto academic teaching positions. However, this does raise the issue of Teaching and Learning Centres/Institutes needing to stay within the scope of their role, while meeting the diverse needs of program participants. That is to say, it is questionable whether Teaching and Learning Centres/Institutes should be seeking to incorporate content on transferable skills as part of their programming.

Only two programs at two different institutions awarded a digital badge or micro-credential upon completion of the program. This finding is contrary to reports of many institutions experimenting with digital badges (Farmer & West, 2016). West and Randall (2016) hypothesized that unless badges are shown to be a rigorous and meaningful assessment tool, their use will fade away. In this vein, it follows that Centres/Institutes might be skeptical of this technology at this

point in time. In contrast, there was a slight increase in program accreditation, likely in part due to the inception of the EDC accreditation framework. Kanuka and Smith (2019) support this movement towards program accreditation, suggesting that accreditation provides hiring committees with assurances on what a candidate knows about teaching and learning.

Limitations and Future Research

A few limitations of the present research warrant mention. First, generalizability of the findings is impacted by two factors. Two graduate teaching certificate programs that could not be verified were not included in the research. Moreover, it is possible that other graduate teaching certificate programs not captured on their institution's Teaching and Learning Centre/Institute website were omitted from the study.

A second limitation pertains to how missing data was treated in the research. In the cases where a cell was left blank in a spreadsheet verified by an institution (e.g., whether programming was offered that explicitly focused on transferable skills), the absence of a response was treated as an absence of that component or assessment. This approach may have skewed the results towards lower percentages being reported for program components and assessments than is warranted.

Despite the above limitations, the present research has made valuable contributions to the field by documenting the increase in the number of graduate teaching certificate programs at Canadian universities since 2014, and describing how the features of those programs have evolved over this time period. The work conducted by Kenny and colleagues (2014) was of great value in forming the graduate teaching certificate program at the authors' home institution, and it is hoped that the present study will be similarly helpful to others in this regard.

It would be beneficial for future research to provide a deeper understanding of the complexities that surround graduate teaching certificate programs in Canada. Some key questions include:

1. How may program value best be evidenced and communicated?
2. How do program participants feel about the increasing prevalence and popularity of such programs at Canadian universities?
3. How do program participants feel such programs prepare them for teaching and non-teaching related careers?
4. Is program participation viewed positively by teaching and non-teaching related hiring committees (both within and beyond the post-secondary context)?

Through such research, graduate teaching certificate programs could be revised to enhance the quality of programming, and to better meet the present and future needs of program participants.

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Appendix

List of the Canadian universities included in the research – all were 2018 institutional members of STLHE (*n* =25).

Institution	Program Name(s)
Brock University	• General Certificate in Teaching and Learning in Higher Education • Advanced Certificate in Teaching and Learning in Higher Education
Carleton University	• Certificate in Teaching Assistant Skills • Preparing to Teach
Concordia University	• Graduate Seminar in University Teaching
Dalhousie University	• Certificate in University Teaching and Learning
McMaster University	• Teaching and Learning Foundations Certificate of Completion • Teaching and Learning Scholar Certificate of Completion
Memorial University	• Teaching Skills Enhancement Program
Queen's University	• Professional Development in University Teaching and Learning
Ryerson University	• Graduate Teaching Development Program
Trent University	• Graduate Teaching Certificate Program
University of Alberta	• Graduate Teaching and Learning Program
University of Calgary	• Graduate Student Certificate in University Teaching and Learning
University of Guelph	• Graduate Student Teaching Development Program
University of Lethbridge	• Graduate Teaching Assistant Professional Development Program
University of Manitoba	• Level 1: Novice Graduate Teaching Program
University of New Brunswick	• Diploma in University Teaching
University of Northern British Columbia	• Teaching Assistant Certificate Program
University of Ontario Institute of Technology	• Certificate in University Teaching for Teaching Assistants
University of Ottawa	• Certificate in University Teaching for Graduate Students and Postdoctoral Fellows

Institution	Program Name(s)
University of Toronto	• Teaching Fundamentals • Advanced University Teaching Preparation
University of Victoria	• Certificate in Learning and Teaching in Higher Education
University of Waterloo	• Fundamentals of University Teaching • Certificate in University Teaching
University of Windsor	• University Teaching Certificate
Western University	• Western Certificate in University Teaching and Learning
Wilfrid Laurier University	• University Teaching Foundations • Introduction to Intercultural Teaching • University Teaching Certificate • University Teaching Course for Doctoral Students • Foundations in Online Teaching
York University	• TA Certificate in Teaching • Record of Completion Certificate Program • Senior Teaching Assistant Program: Exploring Educational Development