

# Exploring the Context of Canadian Graduate Student Teaching Certificates in University Teaching

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## Abstract

A growing number of Canadian universities offer graduate student certificate programs in university teaching. This paper examines such programs at 13 Canadian universities and presents a discussion of program structures and practices. The findings suggest that most programs were offered over one to two years, and upon successful completion, participants were issued a centre-approved certificate paired with a more formalized method of recognition, such as a transcript notation. The core focus of certificate programs appears to be divided between those that emphasize practical skill development (46%) and those that offer practical skill development along with a focus on the scholarship of teaching and learning (54%). Most certificates included active and authentic assessment methods, such as dossiers (69%), and practice teaching sessions (62%). These findings help to inform the continued evolution of graduate student teaching certificate programs.

## Résumé

Un nombre croissant d'universités canadiennes offrent aux étudiants de cycles supérieurs des certificats de formation en enseignement universitaire. Le présent article évalue de tels programmes offerts par treize universités canadiennes, puis discute des structures et des pratiques de ces programmes. Les résultats de l'étude suggèrent que la plupart des programmes s'échelonnent sur une période d'un à deux ans à la fin de laquelle les participants reçoivent

un certificat approuvé par le centre institutionnel d'enseignement, ainsi qu'une forme de reconnaissance plus formelle, comme un relevé de notes. Ces programmes de formation en pédagogie universitaire semblent se diviser selon deux objectifs principaux : ceux qui visent le perfectionnement de compétences pratiques (46 %), et ceux qui englobent le perfectionnement de compétences pratiques tout en mettant l'accent sur la science de l'enseignement et de l'apprentissage (54 %). La plupart des programmes comprennent des méthodes d'évaluation actives et authentiques, telles que les dossiers d'enseignement (69 %) et les ateliers pratiques d'enseignement (62 %). Les résultats de la présente étude contribuent à informer quant à l'évolution continue des programmes de formation en enseignement universitaire offerts aux étudiants de cycles supérieurs.

### Introduction

In a 2012 study, 48% of graduate students attending an Ontario university reported holding a teaching assistantship during their studies (Zhao, 2012). With regard to their growth as university educators, graduate students have been described as having “little opportunity for systematic professional development” (Trautmann, 2008, p. 42). Over the past two decades, there has been increased pressure to provide opportunities for graduate student pedagogical development (Austin, 2002; Boyer, 1991; Kreber, 1999; Rhodes, 2001; Schuster, 1993) as graduate student teaching preparation is increasingly seen as being “vitally important to the future of higher education” (Schönwetter & Ellis, 2011, p. 15). The development of teaching skills is an area of growing interest among administrators, faculty, and graduate students across Canadian universities. It is important to note that teaching skills, although often seen as academic skills, have application in the development of broader professional skills that can be used beyond graduation, such as knowledge translation and communication (Rose, 2012).

Accompanying this growing interest is awareness that graduate school provides an opportune time to concentrate on pedagogical development for the future professoriate. As Hunt, Mair, and Atkinson (2012) emphasize, the most important socialization force for individuals pursuing a career in academia lies in the graduate school experience. During graduate school, students construct their understanding of what is required to obtain a faculty position, how to be an effective professor, and how to “fit in” to the academic community (Austin, 2002). In a study involving approximately 900 instructors in six Ontario universities, Britnell et al. (2010) confirm the importance of the graduate experience to teaching development, reporting that two-thirds of those surveyed had learned to teach prior to their first academic appointment through hands-on experience as a teaching assistant. Although this study highlights their “in-the-moment” development as educators, it also points to the fact that this may be one of the most suitable times in their academic careers to develop as educators. The importance of the development of teaching skills during graduate studies is especially true given the many competing demands that faculty face early in their careers (Britnell et al., 2010).

Further highlighting this need for teaching development at the graduate level is work suggesting that PhD graduates entering their first careers in academia have generally felt ill-prepared for their teaching responsibilities (Richlin, 1993). Teaching development opportunities offered to graduate students have typically been limited to their roles as

teaching assistants—a practice Britnell et al. (2010) describe as “learning by doing.” Many graduate students may have the opportunity to teach to some extent, whether it is in the form of lecturing on occasion, conducting seminars or tutorials, or having one-on-one meetings with students. Teaching assistants generally do not receive regular feedback or engage with their associated faculty members in regularly scheduled, thoughtful reflection on their practice (Austin, 2002; Ishiyama, Miles, & Balarezo, 2010). As Britnell et al.’s (2010) study illustrates, many experienced faculty members wish they had received teacher training during their graduate education to avoid the many pitfalls of the “learn by doing” approach. According to Trautmann (2008), many PhD graduates will have completed their doctoral degrees without ever having taught a class, completed a course on teaching, or participated in any kind of organized teaching development. Nevertheless, this trend is beginning to change. For example, in a study assessing graduate teaching development programs at two Ontario universities, Dimitrov et al. (2013) report the positive impact of longer-term (20–40 hours) teaching development programs on graduate student ratings of teaching self-efficacy and preparation as future faculty. In an intensive examination of two university teaching programs for graduate students at the University of Waterloo and the University of Manitoba, the authors report significant growth in graduate students’ sense of their preparedness to teach after the completion of the certificate programs (Taylor, Schönwetter, Ellis, & Roberts, 2008).

It is important to provide teaching development opportunities for graduate students not only because of their formative development as academics, but also because of the current discourse around the perceived realities of the academic job market. Precipitated, in part, by flat or falling university funding across Canadian campuses (Bradshaw, 2013), the role of part-time instructors in universities’ strategies and teaching cultures is increasingly important. As reported in the popular press (Fullick, 2013) and by others exploring issues in higher education (Maldonado, Wiggers, & Arnold, 2013), the percentage of PhD graduates who are successfully securing tenure-track positions immediately after graduation is declining. As a consequence, recently minted PhDs often bridge the gap between graduation and a full-time position within higher education with available sessional or contractual teaching opportunities.

Ishiyama, Miles, and Balarezo (2010) as well as White, Syncox, Heppleston, Issac, and Alters (2012) point out that the increased emphasis on the quality of teaching in higher education, combined with a clear decline in tenure-track faculty positions, means it is essential that graduate students be given the opportunity to develop their teaching skills. It is interesting to note the contemporary parallels to the academic job market pressures graduates faced in the 1970s (Schuster, 1993). While evaluating a candidate’s potential for research remains a key criterion for hiring committees, this is now being tempered with interest in a candidate’s teaching effectiveness.

A growing number of Canadian universities offer teaching development for graduate students (Grabove et al., 2012). Up until the late 1980s, these types of programs largely took the form of “piecemeal add-ons” (Richlin, 1993, p. 104) or “seat-time,” in which graduate students learned by attending conferences and other types of presentations (von Hoene, 2011). Evers et al. (2009) observed that Canadian universities are increasingly offering graduate students formally structured certificate programs in university teaching. As described by Ishiyama et al. (2010), most certificate programs introduce graduate students to basic instructional techniques and classroom management strategies. Time is

also usually allotted to course design and syllabus construction, as well as grading techniques. Certificate programs tend to use a combination of assessment strategies to determine participants' success in and completion of the program, such as a teaching dossier, written reflections, a presentation, or a faculty-mentored practicum.

With the growing number of PhD graduates pursuing academic careers wanting more preparation for their teaching responsibilities, and for those seeking additional preparation for other career possibilities, it is clear that providing teaching development opportunities at the graduate level is timely, important, and impactful. To foreground the value of engaging in these activities, it has been argued that it is important to formally recognize graduate students' teaching development efforts (Grabove et al., 2012). Certificate programs serve as a promising way for graduate students to develop pedagogical skills and receive formal recognition for their efforts.

Although research related to graduate student certificate programs has occurred within the American context (von Hoene, 2011) and within the context of two Canadian certificate programs (Taylor et al., 2008), little research has explored the current status of certificates across Canadian institutions. While often affiliated with certificate programs, this study does not exclusively investigate graduate courses on teaching in higher education. Schönwetter, Ellis, Taylor, and Koop (2008) present an extensive examination of 155 graduate courses preparing graduate students for teaching in higher education, from across Canada and the United States. We have, however, made note of the inclusion of such courses in these certificate programs. In this article, we examine 13 Canadian universities that currently offer graduate student certificate programs in university teaching. The purpose of this research is to gain a clear understanding of the current state of these certificate programs in Canada and to discuss practices related to their achievement.

## Methods

We collected data between November 2012 and January 2013 to address the following research questions:

1. What is the current state of graduate student teaching certificate programs in Canadian universities?
2. What are the key characteristics of these programs?
3. What are the intended outcomes?
4. How are these programs structured and administered?
5. How are students assessed and recognized?

As the Society for Teaching and Learning in Higher Education (STLHE) provides a comprehensive list of teaching and learning centres in Canada, we used STLHE's list of institutional members as the basis for generating a list of institutions to contact. We explored each member institution's website to determine whether they met the following criteria:

- offered graduate degree programs;
- offered graduate student training in university teaching and learning; and,
- provided formal recognition upon completion of the program.

Recognition included one or more of the following: a teaching centre-awarded certificate; co-curricular transcript notation; transcript notation; senate-approved certificate; or externally recognized accreditation (e.g., from the UK organization Staff and Educational Development Association, or SEDA). "Graduate students" included masters-level

or doctoral-level students. We did not include post-doctoral fellows as an area of focus in this study, although they may be included as program participants. Based on these criteria, 13 universities were included in this study. (See Appendix A for a list of all institutions considered and the list of the 13 universities included.)

The specific program details we sought in this study were the

- name of the program and the affiliated department;
- type of recognition provided to participants upon program completion;
- enrolment capacity;
- program participant criteria;
- program fees;
- online program components;
- transferability of the certification to other academic institutions;
- program structure and requirements;
- intended program outcomes; and,
- method used to assess program completion.

In the event that any of the program details listed above were not provided on the department website or were unclear, the program representative was contacted via e-mail to clarify the information. Representatives referred to the main contact of the respective universities' centres for teaching and learning. Often, these representatives held the position of director, manager, or educational developer within the university's centre for teaching and learning. Program representatives were subsequently contacted via telephone if an e-mail response was not received within one week. To ensure the validity of the data collected, representatives from each of the 13 programs were contacted and asked to verify that all the information in the report was correct, complete, and up-to-date. Data were then updated as a result of feedback received from each program representative.

A basic assumption of this research is that a teaching and learning centre would promote or describe a teaching certificate program via their website. If an institution did not have a certificate program listed on its website, then it was not included in this study. We recognize this is a limitation of the method. Our method collected a snapshot of the status of graduate student certificate programs from November 2012 to January 2013. The data collected do not provide information on program changes or newly developed certificates that may have occurred after these dates. Although this study provides a useful baseline of data related to graduate student certificate programs, future research, including in-depth interviews, might capture history, changes, and future directions more fully.

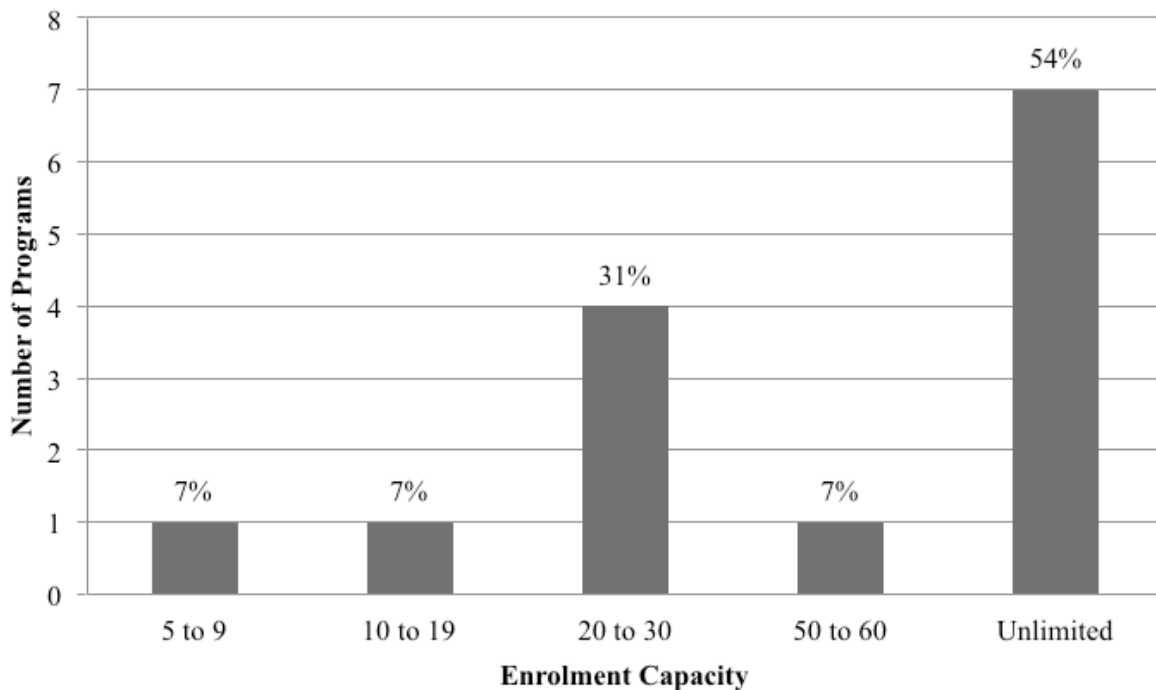
To analyze the data, we used analytic induction, a type of qualitative content analysis that begins with observations and goes beyond description to find patterns and relationships among variables (Babbie, 1998), in accordance with the purpose of the research. Themes in the data were identified and coded based on the central research questions so that data useful to the context of the administration, structure, outcomes, assessment, and recognition provided within the context of the certificate programs were given priority in the analysis (Leedy & Ormrod, 2001). Risks of misclassification were reduced by ensuring that initially identified observations, patterns, and relationships were reviewed for consistency. Data were organized and analyzed based on Creswell's (1998) qualitative data analysis spiral, progressing from data organization and overall assessment, through to classification and interpretation, and finally to synthesis and presentation.

## Findings

### Administration

All 13 programs in this study were offered to internal graduate students (both masters-level and doctoral-level students), with few (23%) extending their participant criteria to include internal and external faculty as well as external graduate students. As shown in Figure 1, enrolment capacity was split between unlimited and limited capacity. Most programs that had a capped enrolment limited their enrolment to between 20 and 30 participants. Even programs that classified themselves as having unlimited enrolment did have limited enrolment capacities, typically capped at 30 participants for individual offerings within the program. In this way, “unlimited enrolment” programs, while not limited in the total number of students participating in the program at one time, were, in fact, limited at the course level. Wait-listing was frequent throughout all programs, indicating that demand often exceeded capacity.

Figure 1. Graduate student teaching certificate program (n = 13) enrolment capacity.



There exists a reasonably even split between programs that charge participants a fee (54%) and those that do not (46%). Largely, program fees are applied to individual courses or serve as a deposit that is returned to students upon completion of the course (i.e., a “no-show” fee). The few programs that charge a general enrolment fee (ranging from \$300 to \$900) impose different fee structures depending on the student’s status (internal, external, domestic, or international).

## Intended Program Outcomes

Each university clearly identified intended program outcomes for its certificate programs (i.e., the knowledge, skills, and values that all participants should attain upon completion of the program). Broadly, these outcomes fell into two categories: (i) practical aspects of teaching and (ii) practical aspects of teaching and the scholarship of teaching and learning (SoTL). The first category includes outcomes related to topics such as lesson planning, course planning, presenting, marking, time management, classroom management, and engaging students in light of various cultural or learning barriers. These topics echo key graduate student development program competencies reported by von Hoene (2011), Schönwetter and Ellis (2011), and Taylor et al. (2008).

The second category built upon the first and also emphasized the SoTL. The coding of the SoTL was interpreted based on the scope of practice communicated by authors such as Boyer (1991), Prosser (2008), and Trigwell, Martin, Benjamin, and Prosser (2000). Practices of the SoTL were interpreted along a continuum from exposure to engagement, similar to the model proposed by Gale and Golde (2004). Programs that included outcomes related to the SoTL: (i) articulated the use of theory as it relates to teaching and learning in higher education (e.g., taking a non-credit course in an introduction to the SoTL); (ii) emphasized the development of effective teaching practices that are informed by scholarly research; and (iii) had students engage in the SoTL then disseminate findings (e.g., engaging in the SoTL and sharing findings with colleagues through options such as summary reports, conference papers, or materials for a workshop).

The SoTL is broadly conceptualized and has been the focus of much recent discourse in higher education (Boshier, 2009; Kenny & Evers, 2010; Killen & Gallagher, 2013; Kreber & Cranton, 2000; Prosser, 2008; Theall & Centra, 2001; Trigwell et al., 2000). A scholarly approach to graduate student teaching focuses on a continuous interaction between reflection on practice and theory-based knowledge on higher education (Kreber, 1999). It incorporates a range of approaches that support *learning* from existing pedagogical research, *integrating* this research into practice, *reflecting* on one's own teaching practice with a philosophy of continuous improvement, and *disseminating* knowledge to more broadly inform teaching in academe. Building upon Boyer's (1991) seminal work related to scholarship, Theall and Centra (2001) contend that the SoTL is focused on "the goal of creating future scholars and arming them with the necessary skills and habits of thought and action that maintain the ongoing cycle of learning and teaching and teaching and learning" (p. 42). Teaching is an inherently complex activity that requires the development of lifelong learning skills that enable graduate students to be responsive and thoughtful to new changes and unexpected challenges over the course of their teaching careers. The SoTL can help graduate students build the confidence and capacity to address, investigate, and answer these challenges.

Of the programs examined in this study, 46% focused explicitly on the practical aspects of teaching, while, in addition to these, over half (54%) of the programs were focused on the development of outcomes related to the SoTL. Although there is no one SoTL framework upon which to base graduate pedagogical development, it is clear from our review of graduate student certificate programs that the SoTL has become a core component within many of these programs. Given the results of the present study, it appears that in comparison to earlier work in the field of graduate student development by von Hoene (2011)

and Schönwetter and Ellis (2011), the SoTL is gaining momentum as a focus in graduate student certificates. These findings are reassuring given ongoing recommendations by authors such as Kreber (2001) and Gale and Golde (2004), who emphasize the importance of integrating the SoTL into graduate student development. While not every graduate student will end up with a career that involves teaching in a higher education classroom, the cycle of inquiry modeled by the SoTL has broader benefits. As noted more explicitly by Gale and Golde (2004), “even those students who do not self-identify as prospective members of the professoriate would benefit from a more scholarly approach to and awareness of teaching as a professional activity, and learning as a site of inquiry” (p. 9). Moreover, the SoTL provides a framework for reframing research and teaching as complementary processes, thereby reducing the perceived dichotomy between these two academic practices.

### **Program Structure**

While there exists a great deal of diversity in the specific ways that each institution executes its programs, there are some recurring themes. There tend to be two overarching 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. Within these different program types, there appears to be some consensus around the major themes or topic areas that are emphasized, including

- the fundamentals of teaching;
- professional skill development;
- applying newly learned concepts to one’s teaching practice; and, if applicable,
- the scholarship of teaching and learning.

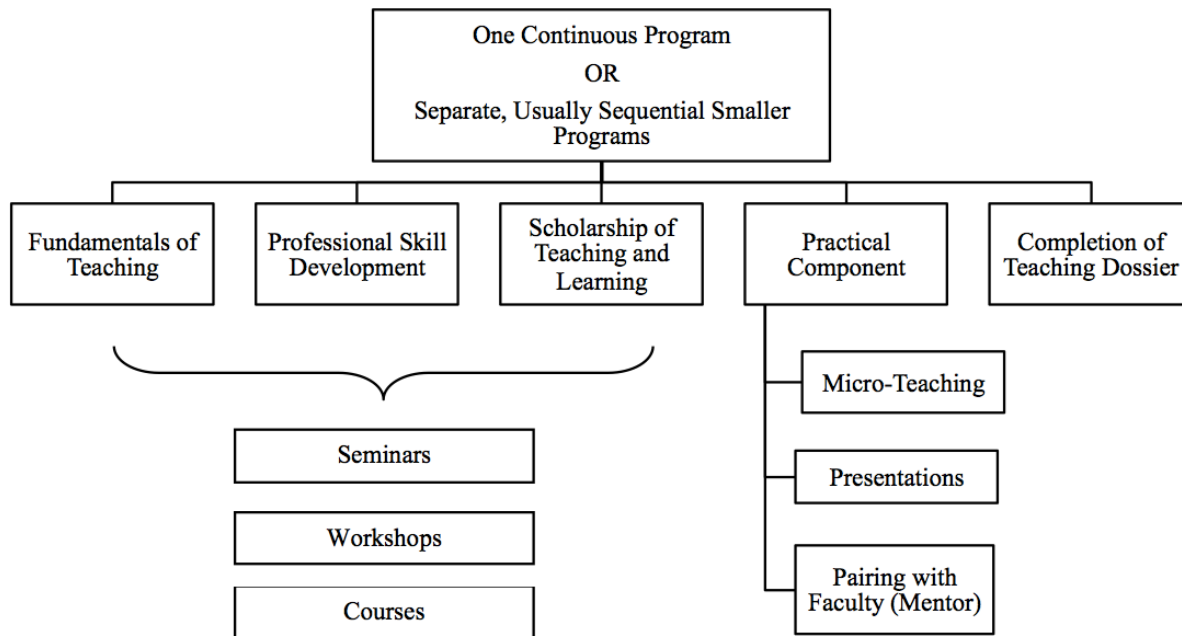
These themes are very similar to those reportedly emphasized in other certificate programs (Taylor et al., 2008; von Hoene, 2011). In comparison to Schönwetter et al. (2008), who found consistency in the course content and alignment of graduate courses on university teaching throughout the United States and Canada, there appears to be much more diversity across graduate certificate programs. Each program in our study delivers the reported themes in diverse ways. Specific program structures range from course-only formats to those that are self-directed, involving optional workshop attendance and the completion of written reflections. von Hoene (2011) notes in her research on American graduate student certificates that the diversity in certificate program design is often reflective of the individual institutional context. Figure 2 presents a general overview of the structure of the programs included in this study.

Most programs are one to two years in length. This echoes von Hoene’s (2011) findings, where the majority of certificate programs in the United States were reported to be two to four semesters in length. Given the increasing pressures associated with time-to-completion rates during graduate studies (Canadian Association of Graduate Studies, 2004; Seagram, Gould, & Pyke, 1998; Sheridan & Pyke, 1994), this duration could limit student participation in these programs. When the timing of certificate programming directly conflicts with that of required coursework or research requirements, additional flexibility for graduate students may be provided by offering online and blended learning options (Song, Singleton, Hill, & Koh, 2004). Of the 13 programs, only four integrated online components into their program structures, usually in the form of an optional online version of the face-to-face course offerings. While some programs offer online compo-



nents within the certificate structure, we identify further opportunity to provide flexibility by offering online and blended certificate formats.

*Figure 2.* Schematic representation of the program structure for the 13 graduate student certificate programs included in this study.



The pressure to decrease time-to-completion rates could prevent those from certain disciplines, in lower income brackets, without permanent resident status, or with additional caregiver responsibilities from completing these certificates and thereby decrease the diversity of participants within these programs. The question of who is completing these certificates is certainly an area for further study, as the design of these programs might inadvertently exclude certain graduate student populations.

Almost half (46%) of the certificate programs included some form of teaching mentorship within their structure, between instructors and graduate students as well as between peers. One program, for example, has participants regularly attending undergraduate classes taught by their mentor and teaching at least three hours in this course. In their study of over 800 faculty members, Britnell et al. (2010) found that less than 25% of new faculty had been able to engage with a teaching mentor at the beginning of their teaching careers, yet almost 50% wished they had had access to a teaching mentor during this time. Mentorship provides a powerful and reciprocal learning framework within teaching development programs. Austin (2002) discusses the importance of mentorship in providing an opportunity for graduate students to become immersed in academic culture, thus increasing students' sense of connectedness and confidence within these often isolated contexts. Core to the success of mentorship frameworks is providing a consistent structure for mentors and mentees to interact and engage in relevant discussions about teaching in higher education, and to participate in the process of both observing and being observed (Austin, 2002; Boyle & Boice, 1998; Nyquist et al., 1999).

There has been much discussion of PhD graduates who do not follow a “typical” academic track after graduation. Since 2007, many reports (Bilodeau, 2007; Canadian Association of Graduate Studies, 2008; Rose, 2012) have identified the importance of transferable professional skill development during graduate studies. These certificate programs provide the opportunity for graduate students to develop pedagogical competence and all four skills outlined by the Canadian Association of Graduate Studies (CAGS), including communication skills, management skills, teaching and knowledge transfer skills, and ethics. Many of these skills are noted as core competencies by educational developers responsible for designing and facilitating graduate student teaching development programs (Schönwetter & Ellis, 2011), and by researchers evaluating the structure of other graduate student programs. Taylor et al. (2008) and von Hoene (2011) highlight that certificate programs provide opportunities for participants to develop professional skills such as communication, presentation, ethics, self-assessment, goal-setting, writing, and critical reflection.

For those who decide to pursue allied job paths inside and outside higher education, the training offered by graduate student certificate programs in university teaching provides them with transferable professional skills to increase their employability. As certificate programs continue to be developed, it will be important to explicitly identify and assess intended certificate learning outcomes that align with these professional skills. Doing this will help graduate students further communicate the impact of these certificate programs on their professional development. How graduate student certificate programs act to foster the development of professional skills is certainly an area for further study.

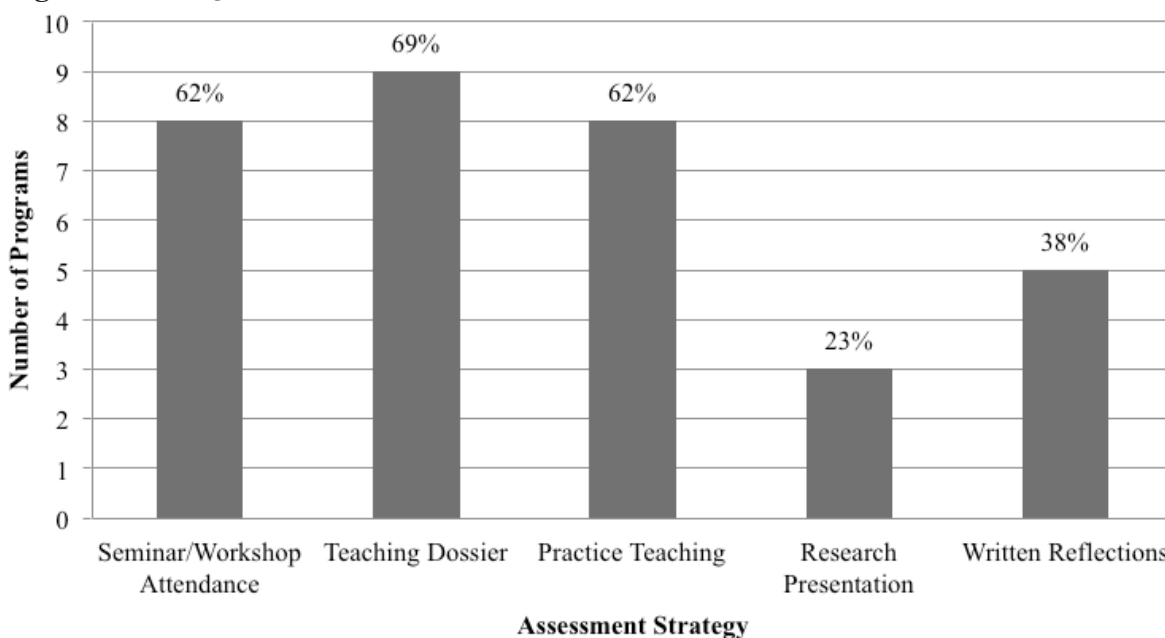
## **Assessment**

Several assessment strategies (see Figure 3) were employed by the programs in this study to gauge the success of their participants in achieving the intended program outcomes. These strategies were similar to those reported by von Hoene (2011) and Taylor et al. (2008). The strategies either can be embedded into the courses that participants take as part of the program or can serve as stand-alone program requirements. The most commonly used assessment strategies were

- attending seminars and/or workshops;
- completing a teaching dossier;
- engaging in practice teaching;
- preparing and giving a research presentation; and,
- submitting written reflections.

The majority of programs make use of a combination of assessment strategies. Typically, participants simply must attend a prescribed number of seminars or workshops to meet one of the attendance criteria. In addition, participants commonly engage in practice teaching: either they have a formal mentorship with a faculty member, during which they practice in a university class, or they engage in a micro-teaching session, which they present to a small group of classmates. Participants also often complete either a research presentation or a number of written reflections that encourage them to reflect on how their new knowledge applies to and will shape their future teaching practices. Finally, the teaching dossier most often serves as a summative assessment piece.

Figure 3. Distribution of assessment practices for graduate student teaching certificate programs ( $n = 13$ ) across Canadian universities.



With nearly 70% of certificate programs requiring teaching dossiers as a form of assessment, our research findings provide clear evidence of the importance of dossiers as an assessment tool in Canadian graduate student teaching certificate programs. Dossiers are a powerful method of documenting, facilitating, and providing evidence of integrated learning processes, especially as they relate to one's teaching practice (Knapper & Wright, 2001). Some key strengths of portfolio-based assessment strategies are that they represent a highly authentic and individualized approach to assessment and place a clear emphasis on lifelong and reflective learning (Knapper & Wright, 2001). This assessment approach also has many practical implications for graduate students interested in academic teaching positions, as many faculty and academic teaching postings require that applicants submit a teaching dossier.

Approximately 40% of certificate programs also require the submission of written reflections. Kreber (1999) speaks to the importance of providing deliberate opportunities for graduate students to engage in critical reflection on both research-based knowledge about teaching and their experience as learners/teachers. Austin (2002) also emphasizes the importance of regular, guided reflection in helping to prepare the next generation of faculty. Reflection provides an important opportunity for learners to assess and scrutinize the validity of these assumptions in terms of how they relate to their past teaching and learning experiences, the scholarship of teaching and learning, and present contexts (Brookfield, 1990; Mezirow, 1990). The act of reflecting on practice can enable learners to gain new perspectives; to develop and communicate a clear rationale for teaching practices (i.e., to answer the question "*Why* do we do *what* we do?"); to enhance meta-cognitive skills and awareness; to develop an increased sense of confidence; and to become more emotionally grounded (Brookfield & Preskill, 2005). Perhaps most importantly, engaging in meaningful reflection provides an opportunity for graduate students to develop a philosophy of continuous growth and improvement, such that they can meet the ongoing demands of their future teaching endeavours (Dimitrov et al., 2013).

Although seminar and workshop attendance were core components in most (62%) of the certificate programs, an equal portion of programs required participants to actively practice their teaching skills (e.g., via teaching assistantships, teaching observations, or micro-teaching sessions). Teaching and learning are complex endeavours. One of the best ways to learn is through actively teaching in a safe space and getting meaningful, informative feedback (Boman, 2013). Yet, teaching is often viewed as a private activity. Roxå and Mårtensson (2009) write of the importance of peer conversation and social learning as meaningful developmental approaches in building teaching capacity. Our research clearly suggests that graduate student certificate programs provide authentic and relevant opportunities for developing the practice of classroom teaching (Kember, Ho, & Hong, 2008; Newmaster, Lacroix, & Roosenboom, 2006), within a framework that includes ongoing feedback and peer development. Taylor et al. (2008) also concluded that the graduate student certificate programs examined in their study helped participants “develop sophisticated abilities such as preparing teaching dossiers and philosophies, discussing their teaching, and developing a course” (p. 57). We do note that almost two-thirds of programs include attendance as an assessment method, and we question whether this form of assessment appropriately aligns with the outcomes the certificate programs espouse (Biggs, 1996; Blumberg, 2009).

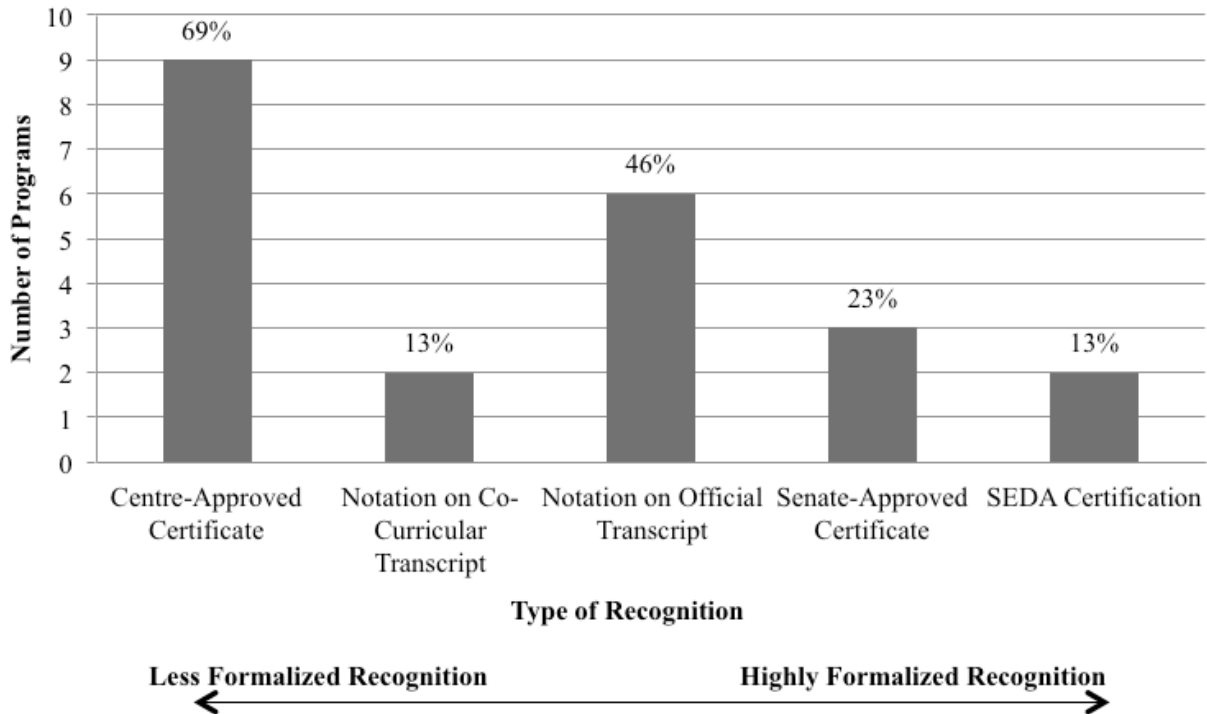
## Recognition

Institutions had several ways of recognizing participants' success in completing their respective program. As shown in Figure 4, the most common method of recognition was a centre-approved certificate. It is important to note that 85% of programs that issued centre-approved certificates paired their certification with a more formalized method of recognition, often a notation on a co-curricular or official university transcript. This formal recognition is encouraging, given Iorio and Decker's (2011) recommendation that graduate students should receive an official transcript notation for their teaching development efforts.

As Figure 4 indicates, the different forms of recognition can be placed on a continuum ranging from less to highly formalized recognition. Appearing at one end are centre-approved certificates issued by the respective university's centre for teaching and learning development. At the other are externally validated certificates issued by organizations such as the Staff and Educational Development Association (SEDA), in the United Kingdom. Of the 13 programs in this study, only two had external accreditation (through SEDA). While methods of recognition vary across institutions, Grabove et al. (2012) suggest that program participants should be rewarded with formal recognition upon completion. This perspective is echoed by Schönwetter et al. (2008), who point out that formal recognition can further legitimize the status of courses and certificates within institutions.

With increased internal and external emphasis on the quality of teaching and learning across our institutions, there is opportunity to consider the impact of certificate programs on graduate students' ability to secure careers in academe, as well as these programs' impact on students' current and future teaching practices. Boman (2013) further highlights the need to evaluate the impact of graduate student teaching development programs. Given institutional diversity in both the structure of these programs and the type of recognition provided upon completion, transferability of recognition between institutions remains a question. Furthermore, the impact of these varying models of teaching certificates is an interesting area for future research.

Figure 4. Recognition provided upon completion of graduate student teaching certificate programs ( $n = 13$ ) at Canadian universities.



### Conclusion

The results of this study of graduate student teaching certificate programs offered by 13 Canadian universities can be summarized as follows:

1. The core focus of certificate program outcomes appears to be on a continuum, divided between certificates with a focus on developing practical skills and certificates that emphasize practical skill development as well as building capacity in the SoTL.
2. Predominantly, certificates are delivered face-to-face and are one to two years in length.
3. Assessment of program learning outcomes in certificate programs is active and authentic, including intentional reflective practices (e.g., dossiers), practice teaching, and engagement in the SoTL.
4. Most participants are recognized through a certificate “approved” by the institution’s teaching centre or through notation on an official transcript; far fewer institutions offer recognition through a third party outside the teaching centre (e.g., the institution’s senate or SEDA).

It is clear that program structures emphasized the development of practical teaching skills. In the majority of programs, both the activities and the assessments reflected best approaches in pedagogical development, with the inclusion of authentic, experiential, and relevant practices. We do question a “bums in seats” approach to certificate assessment: measuring a graduate student’s attendance does not provide formative or summative feedback on the knowledge, skills, or values the individual develops during the certificate program. We would encourage the use of more authentic measures of achievement.

Development of the skills associated with university teaching and learning also aligns with the current broader discourse related to transferable professional skills at the graduate level. It is widely acknowledged that most Canadian graduate students will not go on to academic careers (Rose, 2012). It is important for those designing certificates in university teaching to consider and communicate the broader transferability of skills developed through such certificate programs. Recent findings suggest that a predominant motivation for graduate students to participate in longer-term (over 20 hours) training is related to career and professional skills development (Dimitrov et al., 2013). Using the existing Canadian Association of Graduate Studies' framework for professional skill development, certificate programs should more clearly align their outcomes with the transferable skills therein identified. What impact the development of these skills will have on future employability remains an area for further study.

Although many programs offered the SoTL as an additional emphasis, no programs were solely based on the SoTL. Again, graduate student participants of longer-term TA training acknowledge the benefits of programs that engage students in the SoTL (Dimitrov et al., 2013). Thus, there appears to be an opportunity to more explicitly integrate the continuum of the SoTL into graduate student certificate programs. The SoTL provides a strong framework for using inquiry as a basis to address the complexity of teaching and learning in higher education.

As graduate student certificate programs continue to develop outside of the explicit graduate curriculum, it will be important to: (i) determine their impact on students' time-to-completion rates and (ii) determine whether the diversity of the graduate students who participate in such programs is impacted by the additional time and resources required to complete the certificate. For example, if face-to-face certificates are designed to take place in evenings and on weekends, how does this impact the participation of those graduate students who are also caregivers? We see further opportunity to leverage common technologies, such as the campus learning management system, to offer flexibility for participants in terms of certificate delivery, including using blended and online formats. An area for future study would be to examine whether and how participation in these certificate programs impacts time-to-completion rates.

This article has provided an overview of the current state of Canadian graduate student teaching certificate programs and has presented a discussion of these programs' structures and practices. As enrolments in graduate studies increase, these teaching certificates provide participants with the opportunity to build a broad range of skills that serve to improve the quality of undergraduate education and contribute to the success of current graduate students as they move on in their academic and professional careers. With the growing need to provide evidence for the quality of our teaching and learning environments, it will be important to document the continued evolution of graduate student teaching certificate programs in Canada.🍁

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## Appendix A

The following are STLHE institutional members ( $N = 45$ ) that served as the initial search list; institutions marked with an asterisk ( $n = 13$ ) had posted online, at the time of the research project, details of a certificate program that recognized participants in the form of a certificate or a transcript notation. Certificate names are provided after the asterisks.

Athabasca University	University of Manitoba
Bishop's University	University of New Brunswick* (Diploma in University Teaching)
Brock University* (Certificate in Teaching and Learning in Higher Education)	University of Northern British Columbia
Cape Breton University	University of Ottawa
Capilano University	University of Regina
Carleton University* (Preparing to Teach Certificate)	University of Saskatchewan
Concordia University	University of the Fraser Valley
Dalhousie University* (Certificate in University Teaching and Learning)	University of Toronto* (Graduate Professional Skills Program)
Grant MacEwan University	University of Victoria* (Learning and Teaching in Higher Education)
Kwantlen Polytechnic University	University of Waterloo
McGill University	University of Windsor* (University Teaching Certificate)
McMaster University	University of Winnipeg
Memorial University of Newfoundland* (Teaching Skills Enhancement Program)	Vancouver Island University
Mount Allison University	Western University* (Western Certificate in University Teaching and Learning)
Mount Royal University	York University* (Teaching Assistant Teaching Certificate and Senior Teaching Assistant)
Mount Saint Vincent University	
Nipissing University	
OCAD University	
Queen's University* (Certificate Program in University Teaching and Learning)	
Ryerson University* (Professional Development in Teaching Program)	
Saint Mary's University	
Simon Fraser University* (Certificate Program in University Teaching and Learning for Graduate Students)	
St. Jerome's University	
St. Thomas University	
Thompson Rivers University	
Trent University	
University College of the North	
University of British Columbia	
University of Calgary	
University of Lethbridge	