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# Re-Imagining Pre-Service Teacher Education in Ontario, Canada: a Journey in the Making

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# Re-imagining pre-service teacher education in Ontario, Canada – A journey in the making

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## Abstract

*In this paper/presentation, faculty members from the Faculty of Education at UOIT share their experiences and challenges of redesigning a teacher education program, against the backdrop of provincial funding cuts and a mandatory reduction of student enrolment in all Faculties of Education, as Ontario moves from a 10-month consecutive Education program to a required 2-year BEd program. In June, 2013, the Ministry of Education, Ontario announced that effective September, 2015, universities offering teacher certification would be required to double the length of their programs, moving from two semesters to four semesters, and the length of the practicum will change to a minimum of 80 days of practice teaching. In addition, the number of teacher education spaces funded by the province will be reduced by half. This announcement provided an opportunity for faculty to reimagine teacher education in this new context and thus began the journey that culminated with significant modifications to our existing program, including:*

1) *An Increased range of delivery methods for courses: Although our current program, which is face-to-face with the support of an online Learning Management System (LMS), emphasizes the importance of the integration of technology and pedagogy, the new program is specifically designed to introduce future teachers to learning in the online setting with some blended courses, and with electives and Semester 3 courses offered fully online;*
2) *A shift in focus for some courses which were previously offered, such as additions to present courses to include new literacies and new technologies and a movement toward individualized, personal education for all students;*
3) *An extension of some existing program elements, such as a longer practicum (from 60 to 80 days) and the extension of a core teaching methods course into the second year of the program;*
4) *Consolidation of present courses to integrated courses, such as an integration of Science, Technology and Mathematics into three STEM courses, one of which focuses on computational thinking and the integration of Language Arts and digital technologies to create a course focused on digital literacies;*
5) *The introduction of additional new required courses, such as Mental Health (which was previously an elective course), Pedagogy of the Land (which explores issues of Indigenous ways of knowing), and a self-directed inquiry course that supports an inquiry-based approach to learning; and,*
6) *A movement away from a laptop program in which all students use the same hardware to a Bring Your Own Device (BYOD) model that reflects the growing trend of school districts in Ontario also moving in this direction. The new program models key elements of education at the edge of innovation so that graduates will be leaders of technology in their schools and in their school boards, and in other workplace options, such as professional development, adult education, and training.*

## Introduction and Purpose

On June 5, 2013, the Ontario Ministry of Education announced a provincial plan to “modernize” teacher education beginning September 2015. The plan included expanding the two-semester Bachelor of Education program to a four-semester program, “enhancing” curriculum, and increasing the required number of days in a practicum setting from 40 to 80 days. The announcement also included a plan to reduce the number of admissions to all pre-service teacher education programs in the province by 50 per cent. This initiative is positioned to help reduce the glut of unemployed and qualified teachers in the province (from ministry news release

http://news.ontario.ca/edu/en/2013/06/giving-new-teachers-the-tools-for-success.html).

This "modernization" and "enhancement" will occur, however, with a 33 per cent reduction of per-student funding (from OCUFA http://us1.campaign-archive1.com/?u=ca9b5c14da55e36f1328eb0f1&id=1eca018bfb&e=04e2c9f2a6#story1).

The purpose of this paper/presentation is to share the experiences and challenges faced by members of UOIT's Faculty of Education as we attempt to redesign our pre-service program against the backdrop of the aforementioned constraints. We begin by providing a brief description of teacher certification processes and pre-service teacher education programs in Ontario, as well as an overview of the changes mandated by our accrediting body, the Ontario College of Teachers (OCT). We then focus on the particular initiatives and underlying educational perspectives that have laid the path of our journey toward a new teacher education experience at UOIT. Of the extensive and multi-faceted approach required to develop a new program, we focus on UOIT's unique position in the province as a champion of digitally-enhanced teaching innovation and efficacy. In particular, we discuss the role and relevance of a *Critical Digital Literacies* perspective within an overarching framework of socially equitable education, and detail some of the specific initiatives around methods for course delivery, the fluid integration of technologies for multiple learning and communicational purposes, mental health, and teacher content knowledge. We conclude with reflections on our past experiences, and an eye toward what lies ahead as our journey in program development continues to unfold.

## Becoming a Teacher in Ontario

In Canada, pre-service teacher education programs are university-based and are typically offered via concurrent or consecutive programs, where the former refers to a program that concurrently leads to both a Bachelor of Education and one other undergraduate degree in a field other than education, and the latter refers to a program that leads to a Bachelor of Education, completed after an undergraduate degree. In Ontario, teachers must be certified by the OCT in order to teach in publicly funded schools http://www.oct.ca/~/link.aspx?_id=25CD74DDD6A14F3BA968490666FB1733&_z=z

The OCT "licenses, governs and regulates the Ontario teaching profession in the public interest" (http://www.oct.ca/about-the-college). Key functions include establishing ethical standards and standards of practice for Ontario teachers, certifying teachers, investigating complaints about members, and accrediting pre-service teacher education programs and courses. Until recently, to obtain OCT certification to teach from Kindergarten to Grade 12, individuals are required to:

- have completed a minimum three-year postsecondary degree from an acceptable postsecondary institution
- have successfully completed a one-year (2-semester) acceptable teacher education program
- apply to the College for certification and pay the annual membership and registration fees. (Application process includes providing proof of identity and a Canadian Criminal Record Check Report.) [1]

[1]From the OCT website
http://www.oct.ca/~/link.aspx?_id=25CD74DDD6A14F3BA968490666FB1733&_z=z

With the introduction of Ontario's new approach to teacher education, the shift from a two-semester to four-semester program, with double the number of on-site practicum hours, has come with several new, or newly-modified, regulations around program elements. In particular, Schedule 1 of the College's Regulation 347/02 now includes core content related to: 1) curriculum knowledge; 2) pedagogical and instructional strategies knowledge; and 3) teaching context knowledge with specific elements within each key area of the revised core content
http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_020347_e.htm#BK60

Curriculum knowledge refers to the use of current research in teaching and learning, as well as the Ontario specific curriculum and policy documents related to planning and design, special education, equity and diversity, and assessment.

Pedagogical and instructional strategies knowledge refers to how to use: educational research and data analysis; technology as a teaching tool; inquiry-based research, data and assessment; current strategies relating to student observation assessment and evaluation; current instructional strategies; learning and teaching theories and methods, and differentiated instruction. In addition, knowledge related to pedagogical and instructional strategies also includes development of classroom management and organizational skills, how to teach students whose first language is not the language of instruction, and child and adolescent development. Curriculum specific pedagogy and assessment, as well as the policies, assessments, and practices related to responding to needs and strengths of all students are also elements included in Schedule 1's pedagogical and instructional strategies knowledge.

Teaching context knowledge refers to a host of topics related to how K-12 schools operate within the Ontario context. The teaching context knowledge includes elements such as mental health issues relevant to the K – 12 Ontario school environment, the Ontario College of Teachers' Standards of Practice for the Teaching Profession, the Ethical Standards for the Teaching Profession, and Ontario education law and related legislation. The preparation of students for learning transitions and how to create and maintain professional relationships are also elements within the teaching context knowledge.

**Becoming a Teacher at UOIT**

UOIT is located in a city of approximately 150,000 people, roughly 60 km east of Toronto, Ontario. Our faculty of education is situated downtown in a low income, low education region where only 10 percent of the population has attended university and only 30 percent has a high school education. (Less than 12% of Oshawa's total population has a university degree http://www.oshawa.ca/eco_dev/ed-education.asp). Acknowledging the

broader community in which our faculty is situated, many of the initiatives spearheaded for the new program are being developed with the goals of equitable and enriching educational experiences *for all of our students* – and *for all future students of our students.* Thus, explicit attention will be paid toward addressing the disparities evidenced in low socio-economic status (SES) high needs schools – such as the "digital divide" (Gorski, 2005), over-emphases on rote learning (e.g., Lubienski & Stilwell, 2006), and detrimental expectations of students' "fixed" abilities (e.g., Watson, 2006).

Further, there is a growing concern regarding children's mental health in Canada that directly impacts future teachers. The Mental Health Commission of Canada (2013) reported that as many as 1 in 5 children experience a mental health problem, and as many as 50% of adult mental health disorders began before age of 14 years (Kessler, et al., 2005). This means children are beginning to show the signs and symptoms of mental health distress during their school years and in many cases during the school day. This explains why mental health difficulties are one of the main factors contributing to school absenteeism, poor performance, and school drop-out rates (Kessler et al., 2005). In addition, of the 25% of children who receive help for their mental health care needs, the larger majority (70-80%) receive that care in a school setting (Kessler et al., 2005). Students growing up in low socioeconomic areas would rely more on school based supports due to a lack of community resources. Thus, it is imperative that future teachers are well-prepared to recognise and support students in mental health distress. In addition, mental health is further compounded, *and mediated*, by access and use of digital technologies and social media (Burns, Durkin, & Nicholas, 2009). Increasingly, teachers will require enhanced specialised knowledge regarding assistive interventions that can provide emotional as well as academic support. UOIT (http://uoit.ca) is a national leader in the development and implementation of technology-enabled research, scholarship, and educational programs, and our faculty of education is the provincial leader in researching digital technologies for independent learning and assisted. As such, we see ourselves as uniquely positioned to train and educate teacher candidates on not only how to recognise and help children with mental health issues but use technology to support students and to educate children on the effective use of technologies to enhance their mental health and development.

**Critical Digital Literacies and Social Equity**

Among the pedagogical practices and perspectives that will inform our new program development, a dedication towards social justice and equitable educational experiences weaves through. Informed by Freire (1970 / 1993), we extend his notions of *reading* and *writing* the world to a context of digitally-enhanced learning. Understanding the socio-political, cultural-historical conditions of one's life, community, and world (reading the world), and taking action to transform one's life, community, and world (writing the world) take on new meaning when contextualized within the complexities of modern digitally-enhanced societies. These complexities relate to both the scope of information required to read the world (e.g., an emphasis on highly condensed, numeracy-embedded, dynamic images and information), as well

as to how it is accessed, distributed, vetted, and developed or refuted (e.g., via social media, special-interest online publications, blackout censorship). Theoretical debate about the potential of digital technologies for education has today moved well beyond *whether* digital media should be infused into learning to *how* this promise can best be realized in pedagogical practice.

Literacy, as mastery over the processes by means of which culturally significant information is coded, has transformed learning and will continue to do so as learners increasingly inhabit a world of burgeoning new media through the immersive use of personal mobile devices such as smart phones, tablets, and traditional laptop and desktop computers. Their lives are marked by extensive access to, and intensive engagement with, a growing abundance of multimodal digital texts and a wide variety of robust communication and social networking tools. At the same time, there has been a marked reluctance in educational settings to support, and sometimes even to permit, students to use their personal mobile devices and the new media they typically engage with; this reluctance creates a powerful disconnect between school and out-of-school learning and experience. That technocultural disconnect works to restrict the role and impact of education in the development of students' digital literacies skills.

The Canadian organization, Media Smarts, recommended in its 2010 report "Digital Literacy in Canada: From Inclusion to Transformation" that Canada create a "national digital literacy strategy" (p. ii); however, in 2015 we are no closer to achieving this goal. More than ever before, there is talk in the public media about the need for coding in schools, the need for digital literacy, and the need for STEM (science, technology, engineering and math) education, but at the classroom level there is scant development of pedagogical practices that effectively implement these ideas. Just as importantly, there is little classroom-based research to evaluate these practices and to build conceptual/ pedagogical models on which to base the development of future practices. To be literate in the 21st century, students need to both read critically and to write functionally across a range of media forms and formats. In personal, civic, and professional discourse, multiple modes of expression facilitated by the multimodal, multimedia nature of digital media are not luxuries but essential components of knowing and communicating. Providing users with multiple affordances for communicating, connecting, collaborating, creating, thinking critically, constructing new knowledge, and moving towards civic engagement and social action, literate

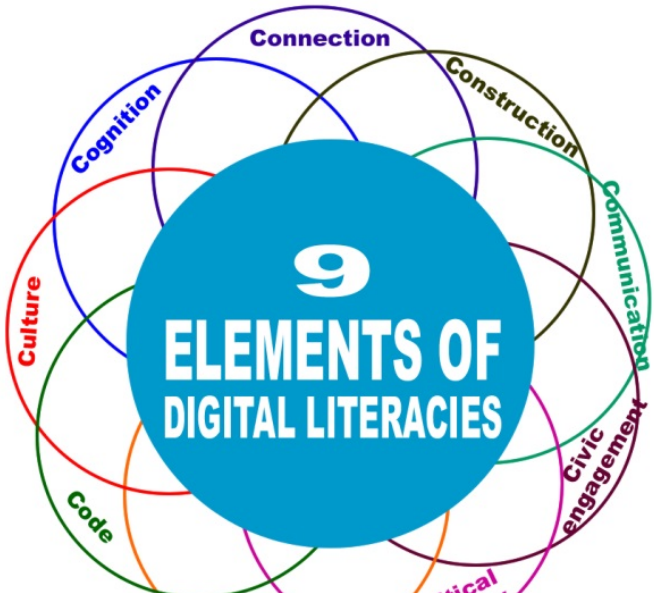


*Figure 6: Elements of Digital Literacies*

media use, digital or otherwise, depends upon how media can be used and repurposed by the learner (see Figure 1). Despite the vast potential for learning with digital media in education, up-take in many school districts has been slow. Today's learners are already living in an "untamed new frontier" (de Castell, 2014, p. 220); educators confront a moral and ethical obligation to critically engage with this new, participatory world and to explore what "might be" possible when research pays serious attention to what happens at the intersection of technology and pedagogy. Building from two diverse conceptual models that orient digital literacy research to date, we have designed a rich and robust critical digital literacy course, one that specifically includes computational as well as linguistic knowledge, skills, and understanding that will increase the competence and confidence of students persistently left out of the 'digital native' demographic as well as their teachers. The course moves well beyond traditional literacy instruction and investigates uses of emerging digital media and interactive tools that disrupt traditional curricular and teaching/learning assumptions and practices, which have hitherto been driven by print-based literacies in both formal and informal learning settings.

Our conceptualization of a Critical Digital Literacies (CDL) pedagogy does not simply map existing definitions of digital literacy and critical literacy onto each other, but rather challenges our assumptions and practices when using digital technologies in the learning process. Critical literacy involves an analysis and critique of the epistemic relationships among texts, language, social groups, and social practices and aims to empower teachers and students to participate in a democratic society by moving literacy beyond textual reception and production to performatively engaged social action. As Luke (2012) points out, Freirian models that draw on critical literacy "provide a pedagogical approach and a political stance, an orientation toward 'voice' and ideology, [but] they lack specificity on how teachers and students can engage with the complex structures of texts, both traditional and multimodal" (p. 8). Key features of a CDL approach which have been integrated into this course include a focus on the cultivation of participatory and equitable spaces where students can engage with ideas and issues as joint seekers and co-creators of knowledge and producers, not just consumers, of digital media. Affordances provided through digital media offer the 'performative' potential to assert agency, action, and change, offering a powerfully personal yet perilously public learning experience. Understanding and, more notably, acting on this recognition of the re-mediation of both culture and learner identity requires a pedagogical shift for many educators, who are accustomed to being the "expert". A CDL approach is inquiry-based and focuses on the 'meta-literacies' nurtured by learning in depth (Egan, 2010); such a pedagogy stands in stark contrast to the heavily regulated and standardized approaches that have long stood at the forefront of most formal learning contexts. While there are pockets of innovation in using a CDL approach, there has to date been a dearth of empirical research in this area, especially in relation to the assessment and evaluation of its impact in the classroom. The result is a lack of capacity and support for both the *digital* and the *critical* components in curriculum design and instruction. Our intention is to remediate this situation

by providing our teacher candidates with a program of study that will advance a critical digital literacies program in Canadian schools moving forward.

**Courses**

In this section, we highlight some of the foundational courses of our new program. The courses will be grounded in problem-based inquiry and will be constructivist in nature. Online and digitally enhanced courses can facilitate a learner-centered pedagogical framework. Advantages to such an approach include: the widely available online information that students can make use of in the learning process; the impetus for students to problem-solve when using a variety of software; the ease with which students can collaborate with their peers using a variety of online platforms, like asynchronous discussion boards, synchronous online conferencing and various other sites and programs like wikispaces that facilitate knowledge sharing and that connect the classroom to the outside world. Across the board, our program strives to offer authentic and critical learning experiences that will aide our teacher candidates in developing meaningful understandings of how to teach *with* technology in order to nurture their future students' reading and writing of the (new digitally-enhanced) world.

Our program sets out to take best advantage of newly available possibilities afforded to educational environments through leading-edge, digitally-enhanced resources, tools, and environments. Within each course, these objectives manifest themselves in different, but compatible ways. All of the following courses, unless otherwise specified, are 36-hour courses, delivered via hybrid face-to-face and online synchronous/asynchronous meetings. They are mandatory for all teacher candidates, and will in some cases, be streamed based on divisions (e.g., elementary, generalist intermediate-secondary, specialist intermediate-secondary). Further details about the individual courses, their scopes and modes of delivery, will be discussed during the presentation.

(i) *Learning in a Digital Context:* This course will focus on the integration of digital technologies in the classroom based on current research and practice and on raising teacher awareness of the impacts of embedding these technologies in learning environments. Students will also gain practical and technical knowledge regarding the pedagogical and theoretical practices associated with learning and teaching with digital media and the intersections of race, gender, ethnicity, class, ability and culture as they relate to the consumption, production and utilization of technology. Students will also be able to use, critique, and produce digital media and understand relevant/current trends in education such as: gamification, personal learning networks, DIY making and participatory culture, the trend toward big data, hackschooling, adaptive and assistive technologies, and open-source e-learning applications.

(ii) *Mental Health in the Classroom:* This extensively researched course was developed over several years (2009 – 2015), and its initial offering in 2009 was the first of its kind to be developed and delivered through a faculty of education in Ontario. In this course, students will use role-playing to practice communication and crises response techniques, they will critically analyse in-depth case studies and student and teacher testimonials around mental health. Topics for the course include: 1) risk and protective factors for positive mental health and resiliency, 2) signs and symptoms of mental health

problems, 3) communication methods with parents and students, 4) diagnosis and referral processes, 5) school and community supports, 6) classroom and learning accommodations for students, 7) roles and responsibilities of teachers and school staff, 8) confidentiality and privacy, 9) teachers' mental health, 10) stigma and cultural views, and 12) crisis intervention methods (MHCC, 2013; PHE Canada, 2014). The course will be delivered in a hybrid format with face-to-face classes; this is considered best practice for mental health courses (MHCC, 2013).

(iii) *Coding and Communication:* Today's youth are born into a technology rich environment vastly different from that experienced by even quite recent generations. Students will increasingly need skills in coding and communication to be active participants in a digital world and for the future workplace. This course will introduce teacher candidates to leading-edge pedagogies and skills for learning and teaching the foundations and fundamentals of programming. By exploring and analyzing an array of child / adolescent-friendly software geared at developing the basics of coding and digital communication for K-12 pupils, teacher candidates will develop innovative pedagogies for teaching and learning in the 21st century. Topics may include: coding educational games, developing mobile apps, LEGO robotics, and multi-platform digital projects.

(iv) *Mathematical Thinking and Doing:* This course is designed to provide teacher candidates with opportunities to develop their conceptual understanding, procedural skills, and confidence in the mathematical knowledge required for teaching. Through a problem-solving approach, teacher candidates will be invited to reconstruct their current perspectives of mathematics and enhance their understanding of mathematics pedagogy. The course will emphasize diverse ways of reasoning with and about mathematics, which includes a focus on mathematical communication and contextualized explorations with connections to other subject areas. Specific considerations for teaching in the K-12 classroom, such as making connections amongst mathematical ideas, physical and virtual representations, and emotional experiences will be addressed.

## Steps, Hurdles, and Future Directions

We initially approached the redesign or our new pre-service teacher education program with an enthusiastic eye towards redeveloping the structure, courses, and practicum with careful attention to the body of pre-service teacher education literature regarding exemplary programs and outcomes. We quickly realized, however, that organizational constraints within the university coupled with the reduced funding oftentimes prevented the application of research to practice. For example, one commonality amongst exemplary programs includes coherent and integrated courses and practicum (Darling-Hammond, 2006; Levine, 2008). To integrate our coursework and practicum in a more cohesive manner, we have created a Foundations Course that will be directly connected to the practicum. The course will address issues related to the role of schools in student learning, planning, assessment, curriculum, classroom management, and topics related to pedagogical and instructional strategies, and the instructors teaching this course will also act as the faculty advisor to his/her students during the practicum. Ideally, clusters of students could complete their practica in the same school so that the faculty advisor is able to spend quality time in the schools with groups of students and teachers and help build partnerships with schools. Most school boards, however, centralize the practicum placement process, preventing the

university from establishing and maintaining lasting and strong partnerships with individual schools.

Other challenges have included the dearth of highly-qualified instructors and financial support for course development. Although many of our adjunct faculty members (usually practitioners with Masters Degrees) have a wealth of experience and knowledge, their responsibilities are limited to teaching, and they typically have limited time or resources to contribute more broadly to the faculty community. This includes limited involvement in course development initiatives (typically these instructors have been provided with an already developed course), as well as connections to practicum experiences, research events and literature, professional development, and community outreach. To include the research intensive integrated approach documented in the literature would require a development team with expertise in teaching and at least a cursory knowledge of current educational research. However, in a small faculty such as ours, members already carry a heavy workload, and have found it difficult to dedicate time to the mandated program changes.

In moving forward, our next steps will continue to refine our understanding of what teacher candidates need from our program, and what and how we can provide for their educational experiences and preparation. Reflecting on past experiences paves the way for future directions, and we close this paper with the reflections of one of our current instructors:

> "Students in the digital age need to learn how to develop the habits of mind, the confidence and the skills to troubleshoot and problem-solve a variety of technical issues related to both hardware and software. Upon graduation, students are entering a wired job market where competencies in technology are not merely suggested skills but rather baseline requirements. My biggest take-away from teaching eight sections of Information Communications Technology (ICT) this year at our faculty of education was that the teacher candidates, regardless of being born into the "millennial generation" or not, were alarmingly afraid of learning new online and offline programs. The fear appeared to spring from a lack of confidence in or willingness to explore the programs in the absence of an immediately available expert who could "undo" any "mistakes" they might make instead of seeing these as part of the learning process. The students were either reluctant or lacked the skills to find, discover or create the solutions for themselves, be they in the form of online walkthroughs, video tutorials, seeking assistance from a peer or taking the time to troubleshoot collaboratively to discover a workaround. Surprisingly some of the youngest students were operating at the same level in terms of technical competency as some of the oldest students who were 50+ with limited previous exposure to most of the programs we were using, such as Pinterest, Evernote and iMovie to name a few. It should also be noted that both age brackets came from similar middle class backgrounds, so a limited access to technology was not the limiting factor for either group.

> "It also became clear early on that prior to the ICT course students hadn't formally been exposed to two main components associated with an understanding of digital literacy: the importance of teaching students how to be both consumers and producers of digital texts in order to equip them with the skills to think critically about their world and the infrastructure of that world and various agendas of those who currently control its construction and direction. It became obvious to me that the majority of students hadn't thought deeply about how their competency and understanding of various digital tools effects or impacts their thoughts and actions on either a conscious or sub-conscious level. An awareness has implications in terms of how individuals choose (or don't choose) to read and write the world around them…how critical they are and how agentive they believe they can be in terms of making positive changes in their local and global communities, both online and off. It's important to also think about the larger digital world and how and why teachers and students need to possess the skills to critically deconstruct their various digital environments…in essence, to become digitally literate."

In our program, *Critical Digital Literacies* is used to frame our values and intentions for our future teacher candidates. Through a critical examination of the affordances and constraints of various digitally enhanced tools, our teacher candidates will be invited to broaden their experiences and understandings of 21st century learning and learners. By redefining literacies, contextualizing social activism within a digital world, enhancing STEM learning and doing with technology, and confronting, addressing, and overcoming issues in child and adolescent mental health, the path ahead for UOIT's faculty of education is replete with possibility, potential, and progress.

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