In Survival Mode: Adult Education Teachers' Experience of COVID-19 and Their Use of Digital Technologies

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Abstract

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The COVID-19 health crisis that began in March of 2020 led to a significant increase in the use of digital technologies for teaching and learning in Quebec's adult education network. This research used a multiple case study design to explore the experience of eight adult education teachers in Quebec's English-speaking community during the pandemic, focusing on their shifts in their use of digital technologies and the disruptions they have faced.

Through semi-structured interviews and Socratic Wheels, each teacher reflected on their use of digital technologies pre-COVID and during COVID. Within-case and cross-case analysis of interview transcripts revealed patterns for both time periods in terms of digital tools and activities, obstacles and barriers to technology use, and teacher professional development. Socratic Wheel results indicated noteworthy increases in the use of digital technologies for formative assessment and feedback as well as for collaboration with colleagues. Additionally, teachers expressed a strong interest in continuing to use learning management systems to share learning resources with their students.

This study includes clear implications for the English-speaking adult education community in terms of improved centre preparedness, personalized professional development for teachers, opportunities for teacher networking, and flexible learning options for students. Further research is needed to expand on the limited representation of this sample and on the data collected during this study.

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Dedication

This thesis is dedicated

to all my colleagues in the English-speaking adult education network

and to the students that we serve.

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Glossary

AGE: The Adult General Education sector offers the following services to students aged 16 and older:

- pedagogical support, literacy, and francization services,
- presecondary to secondary cycle two education,
- vocational training preparation and preparation for post-secondary education, and
- social integration and sociovocational integration.

Andragogy: The methods and practices of adult education, as opposed to pedagogy which focuses on the education of children.

Asynchronous: Individual students move through this type of instruction at their own pace and often at the time of their choosing.

Digital Action Plan in Education and Higher Education: The purpose of this plan is to "support the development of the digital skills of young people and adults" and to "make use of digital technologies to enhance teaching and learning practices" (Government of Quebec, 2018, p. 72).

Digital technologies: This term encompasses information and communication technologies (ICT) and refers both to devices (such as laptops, tablets, SMART Boards, etc.) and tools (such as software, websites).

Distance education: Also sometimes called "correspondence education." The Comité de liaison interordres en formation à distance, or CLIFAD, defines distance education as "individualized education that allows a student to learn on their own, at their own pace, with minimal time and travel constraints, using self-sufficient teaching materials offered by different means of communication" (2007, p. 3). In AGE, students usually learn course content and practice their skills using a workbook. They have some access to a tutor and must present themselves at an AGE centre to write their exams.

Emergency remote teaching: A "temporary shift of instructional delivery to an alternate delivery mode [involving the use of digital technologies] due to crisis circumstances" during COVID-19 (Hodges, et al., 2020).

Hybrid instruction: There are many different types of hybrid instruction. At its base, hybrid instruction involves both in-person and online learning. In an alternating hybrid model, teachers work with a group of students in-class while others are learning independently at home using online tools. In a blended, simultaneous, concurrent, or "comodal" (in French) hybrid instructional model, teachers are working with some students who are in-class and some students who are at home at the same time. Hybrid instruction became a common practice in AGE during the pandemic.

Individualized instruction: In this type of class, learners are moving through the course at their own pace with support from the teacher. This type of instruction is typically offered when there are not enough students enrolled in the course to offer it to a whole group. It is very common in adult education.

Learning Management System: Learning management systems (LMSs) are digital platforms that facilitate the delivery and tracking of online courses. Students use these platforms to access learning resources and activities posted by their teacher.

Multi-level instruction: In a multi-level classroom, an adult education teacher will have students taking the same subject, but at different levels. For example, some students might be learning secondary three math while others are learning secondary four or five math.

Multi-subject instruction: In multi-subject classrooms, adult education teachers are supporting students in a variety of different academic subjects at the same time. For example, students could be learning various chemistry, biology, physics, or general science courses in the same room.

Online instruction: With this type of instruction, students are learning off-campus using digital devices. Instruction is either synchronous (live) or asynchronous (at their own pace). "Online" teaching (more accurately described as emergency remote teaching) was a common practice in AGE during the pandemic but teaching online typically requires a great deal of advanced preparation and training.

RÉCIT: In French, un RÉseau axé sur le développement des Compétences des élèves par l'Intégration des Technologies. This network is made up educational consultants tasked with training, guiding, and supporting teaching staff with the integration of technology for the purpose of developing student competencies.

Synchronous: With this type of instruction, a group of students or a whole class moves through the learning together with their teacher.

Whole class instruction: In this type of class, teachers teach one subject to one group of students who are theoretically at the same level. For example, an English teacher is teaching ENG-2102-4, Rights and Responsibilities. This type of instruction is more common in larger adult education centres in urban or suburban areas.

Chapter 1: Introduction

This case study research explores the use of digital technologies in adult education in Quebec's English-speaking community during the COVID-19 pandemic. This introduction provides an overview of the research context, the research questions, and the significance of this study.

Research Context

On March 11th of 2020, the World Health Organization declared the COVID-19 outbreak to be a global pandemic. One month later, approximately 90% of the world's enrolled learners were out of school as educational institutions in 192 countries closed their doors (UNESCO, 2020). In Canada, the city of Montreal in the province of Quebec quickly became the worst affected area in the country, with more than 30,000 cases and almost 40% of Canadian deaths by late August (Santé Montréal, 2020; Government of Canada, 2020).

In response to the WHO announcement, Quebec's Ministry of Education shut all schools in the province on March 12th, 2020. By early April, as the virus continued to spread in Quebec and schools remained closed, Quebec's Minister of Education – Jean-François Roberge – informed educators in the Adult General Education (AGE) sector[1] that learners should be able to continue pursuing their studies as of April 27th. Teachers scrambled to reconnect with their students and to keep learning going from a distance until the end of the academic year.

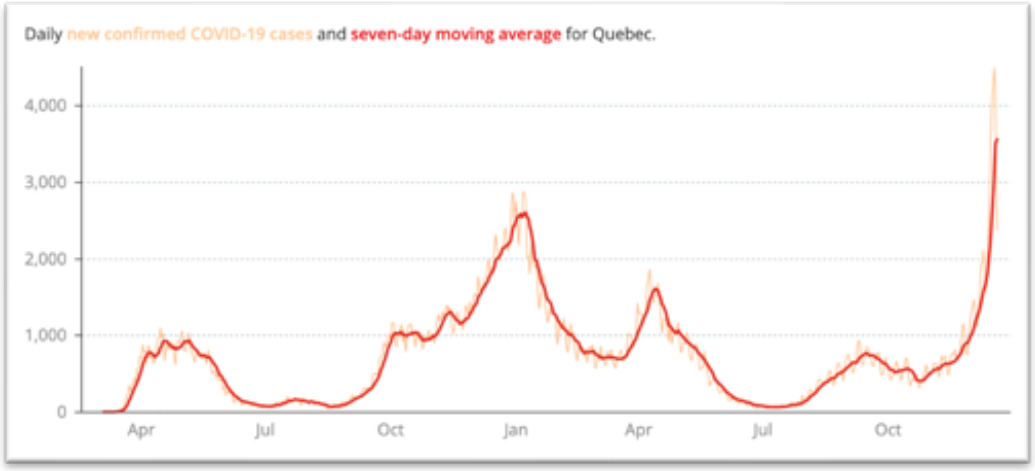
Prior to the start of the 2020–2021 school year, Quebec's Ministry of Education stated its desire to keep schools open in the event of a second wave of COVID cases and instructed that in-person teaching be prioritized. Safety measures such as the wearing of masks, the frequent use of hand sanitizer, and maintaining a physical distance were important aspects of this plan to return

[1] This sector, also known as formation générale des adultes or FGA in French, offers a variety of services from literacy instruction to secondary education for learners aged 16 and older.

to school. Meanwhile, educational institutions at all levels were asked to prepare emergency protocols in case of further local or regional shutdowns to "ensure continuity of learning for all students" (*Emergency protocol/reconfinement plan*, 2020, p. 4). Unlike in the youth sector where a return to classroom was mandatory for all students except those with medical exemptions, in-person attendance in adult education was encouraged but not obligatory and distance learning was permitted for theoretical content (*COVID-19 – Back-to-school plan*, 2020). Many AGE centres in the English sector therefore chose to adopt either completely online or hybrid classes to minimize the exposure of staff and students to the virus. AGE staff and students juggled learning and lockdowns as case numbers continued to rise throughout the fall and winter months. These numbers eventually dropped in the spring and summer, but the pandemic continued to affect the adult education sector in the 2021–2022 school year, with the arrival of the omicron COVID variant – see Figure 1.

Figure 1

COVID-19 Case Numbers in Quebec



CBC News. (2021, December 21). *COVID-19 in Quebec: What you need to know Tuesday*. https://www.cbc.ca/news/canada/montreal/covid-19-quebec-dec-21-1.6293449

Though distance education has been a part of adult education in the anglophone sector since 1992, AGE centres in the English community were not prepared for the sudden shift to emergency remote teaching using digital technologies in March of 2020 or for online and hybrid instruction in the 2020–2021 school year. The Comité de liaison interordres en formation à distance, or CLIFAD, defines distance learning, known as formation à distance in French, as:

> une formation individualisée qui permet à un élève d'apprendre par lui-même, à son rythme, avec des contraintes minimales d'horaire et de déplacement, à l'aide de matériel didactique autosuffisant offert par différents moyens de communication et le soutien à distance de personnes-ressources. Les activités de formation sont le plus souvent asynchrones. La formation à distance peut être diffusée par différents médias : documents imprimés, cédéroms, cassettes audio et vidéo, acheminés par la poste, Internet, cours télévisés, ou une combinaison de ces moyens. (Comité de liaison interordres en formation à distance, 2007, p. 3)

These services have traditionally been offered by the English Montreal School Board and the Eastern Townships School Board and primarily involve the use of textbooks published by the Société de formation à distance des commissions scolaires du Québec, or SOFAD, a not-for-profit organization (Comité de liaison interordres en formation à distance, 2007, p. 9). The Ministry of Education dictates that distance education students are funded at 80% of the equivalent of a full-time student attending class in person, which perhaps explains why the adoption, development, and modernization of this type of service has not been widespread in the English sector or in adult education in general (*Services et programmes d'études, formation générale des adultes,* 2020, p. 21).

Research Questions

School closures in March of 2020 and the adoption of hybrid or online instruction in the 2020-2021 school year resulted in a significant increase in the use of digital technologies[2] for teaching and learning in the Adult General Education sector. Though this pandemic experience was extremely challenging for both teachers and students, it also presented an excellent opportunity for case study research on the changes in teachers' use of digital technologies – as compared to pre-COVID – and the unique disruptions experienced the AGE community. As such, this research poses the following questions:

- How have Adult General Education teachers experienced the shifts related to the use of digital technologies during the COVID-19 pandemic?
- What disruptions have occurred in the English-speaking Adult General Education community due to COVID-19?

Significance of the Study

The proposed study is significant because of its implications about both the target population – Adult General Education teachers in the English-speaking community – and a recent technology-focused initiative by the Government of Quebec.

English-Language Education and Adult General Education in Quebec

This project will provide valuable insight about English-language adult education teachers, a population that is consistently overlooked by government policy, social interest, and academic research.

Although the English first-language population makes up just over 600,000 – 7.45% – of the province's eight million inhabitants, the actual number of fluent English-speakers in Quebec

[2] This term encompasses information and communication technologies (ICT) and refers both to digital devices (such as laptops, tablets, and SMART Boards) and digital tools (such as software and websites).

is more than double that amount (Statistics Canada, 2017). Most English Quebecers live in the greater Montreal area, but there are also established English communities in Gatineau, part of the greater Ottawa metropolitan area, and the Eastern Townships, located about an hour east of Montreal, among others.

Access to English-language instruction in Quebec has been restricted by the Charter of the French language, commonly referred to Bill 101, since 1977. This law made French the only official language of the provincial government and limited English-language instruction to children whose parents had been educated in English in Quebec. This was amended from "Quebec" to "Canada" with the adoption of the Constitution Act in 1982, which guaranteed the right of English and French speaking minority communities in Canada to have their children be educated in their own language (*Instruction in English – Eligibility*, 2021). However, as school attendance in Quebec is only legally mandated up to the age of 16, students aged 16 years and older who wish to continue their studies in English can do so in the adult education sector.

There are nine educational districts, known as school boards, dedicated to servicing Quebec's English-speaking community and all of them offer Adult General Education programs.[3] These instructional services include:

- pedagogical support, literacy, and francization services,
- presecondary to secondary cycle two education,
- vocational training preparation and preparation for post-secondary education, and
- social integration and sociovocational integration.[4]

[3] This number does not include the Littoral School Board, which has a bilingual designation, or the Cree School Board, the Kativik School Board, and the First Nations Adult Education School Council (FNAESC), which provide service in multiple languages to students in Indigenous communities.
[4] Note that these services do not include vocational training (VT), as this service is separate from the mandate of Adult General Education, though both AGE and VT are available to students over the age of 16.

The philosophy of andragogy is the foundation for adult education in Quebec. The Ministry of Education describes it as such:

> A successful educational process involves an andragogical approach and, therefore, the active participation of the adult learners involved. This approach is applied in different areas, including: adapting programs to meet the needs expressed by each adult learner; recognizing adult learners as the first and most important resource in learning situations; taking into consideration the adult learner's ability to progress; respecting their pace, learning style, interests and needs; and, finally, acknowledging that the contribution of the group, environment and community is an important factor in teaching and learning. (*Services et programmes d'études, formation générale des adultes,* 2020, p. 10)

In the 2019–2020 school year, there were 159,044 adult education students in the province, of whom 17,479 – about 11% – attended the twenty-nine adult education centres in the English school boards (Gouvernement du Québec, 2021). Roughly half of these students were under 25 years of age. A 2019 report by the Centre de transfert pour la réussite éducative du Québec highlighted several studies that demonstrate the difficulties faced by many of adult learners:

- 78% of adult education students live on under $20,000 a year (Villemagne, 2014).
- 60% of adult education students aged 16 to 18 have diagnosed learning difficulties (Dumont, 2013).
- 25% of all adult education students can be described as being in distress or in great distress relating to past trauma, psychological issues, and suicidal ideation (Marcotte, 2010).

- 15% of adult education students are first- or second-generation Canadians (Potvin, 2014).

No research quantified how many adult learners were also juggling work and family commitments while they pursued their studies.

Adult education centres in urban and suburban areas tend to have larger student populations and offer whole-group instruction, while centres in rural areas tend to have smaller student populations and offer individualized, multi-level instruction. Both cases feature continuous student intake and no limits on class sizes. Teachers regularly find out which courses they are teaching only a few days before the start of the semester, leaving them with little time to plan their instruction and create or curate learning resources. All of these conditions can make teaching in adult education challenging.

In addition, teacher tenure is not as common in Adult General Education as in the youth sector and many teachers work part-time. Only 23% of the 651 teaching staff in AGE were permanent in the 2013–2014 school year, compared to almost 64% of the teachers in the youth sector (*Statistiques de l'éducation*, 2015). Ministry funding in the AGE sector is based on students' daily attendance in classrooms, which fluctuates from year to year as well as throughout the school year, making school boards hesitant to guarantee permanent posts to teaching staff (*Services et programmes d'études, formation générale des adultes,* 2020, p. 25).

It should also be noted that not all adult education teachers currently possess a teaching certificate. New regulations were introduced in 2008 requiring all new AGE instructors to possess a teaching diploma, but those who began teaching before that time were grandfathered in (*Regulation respecting teaching licenses*, 2019).

Both the English-language education sector and the Adult General Education sector are underrepresented in educational research in Quebec. In addition, most of the research on the Adult General Education sector is exclusively written in French and focuses on either the programs themselves or on the profiles of adult students rather than the particular realities of adult education *teachers* in Quebec, let alone those who work in the English-speaking community. This study will shed some light on this dedicated group of educators.

The Digital Action Plan

The study also provides an important examination of the use of digital technologies for teaching and learning in Quebec's Adult General Education sector.

In the spring of 2018, after two years of research and consultations with educational institutions, private and public organizations, and individual citizens, Quebec's Ministry of Education launched its five-year *Digital Action Plan for Education and Higher Education* as part of the provincial government's new Digital Strategy. The impetus behind this strategy is clear in the opening statement of then-Premier Philippe Couillard:

> Digital technology is important and strategic for Québec. It is neither a luxury nor an option; it is an absolute necessity that Québec keep up with other industrialized societies and even become a leader when it comes to making the shift to digital, which is a true harbinger of the new world, the new society emerging around us. (Government of Quebec, 2018, p. 3)

With over $1 billion set aside for its implementation, the *Digital Action Plan* has two main orientations that are relevant for this study: first, to "support the development of the digital skills of young people and adults" and, second, to "make use of digital technologies to enhance teaching and learning practices" (Government of Quebec, 2018, p. 72). Within those two

orientations, there are five key measures that I wish to draw attention to, in the order of their implementation:

- the release of funding for the procurement and maintenance of digital equipment for pedagogical use as well as for the continuing education of staff relating to the practices of digital pedagogy;
- the establishment of a reference framework of cross-curricular digital competencies;
- the development of a new competency framework for teaching professionals;
- the introduction of a new provincial platform for digital educational resources; and finally
- the launch of a platform for the management of digital ministry examinations (Government of Quebec, 2018, p. 74).

Ironically, the implementation of these measures was interrupted by the arrival of COVID-19 – even though digital resources were central to resuming teaching during the pandemic – but now all but the last of the measures have been put in place.

Prior to the pandemic, the *Digital Action Plan* asserted that the use of digital technologies in education would no longer be 'optional' and would instead be a core component of Quebec's education system moving forward; however, the adoption of the plan and the use of digital tools in the Adult General Education sector remained limited. The swift uptake in digital educational tools and practices since the declaration of the global health crisis in March of 2020 has accelerated this shift significantly. By exploring adult education teachers' use of digital technologies for teaching and learning during the COVID-19 pandemic as compared to pre-COVID, this study adds detail to the portrait of Quebec teachers' digital competencies and

practices and provides insight into how their continued professional development might be supported.

Chapter 2: Literature Review

This chapter reviews recent academic research that is relevant to my study. It is divided into two subsections. The first examines the literature on the use of digital technologies for teaching and learning in Quebec. It starts with an explanation of the changes introduced in the province's education system in the early 2000s, then describes pre-service teacher training in the use of digital technologies, considers in-service teachers' levels of technological competence, and closes with a review of new tools introduced by the province's *Digital Action Plan*.

The second subsection concentrates on COVID-19 and school disruptions. It begins with a general discussion on the initial response to the COVID-19 pandemic, including a comparison of the emergency remote teaching that took place in the spring of 2020 and the hybrid and online instruction that took place in the 2020–2021 school year. It then provides an overview of the various responses of school teams in the adult and K-12 sectors in reaction to the pandemic.

Digital Technology Use in Quebec Education

This section presents research on the use of digital technology in the public education system in Quebec.

Modernizing the Quebec Education System

At the turn of the millennium, sweeping changes were being introduced in Quebec's education sector by François Legault,[5] the Minister of Education at the time. In 2000, the Ministry of Education published the first cycle of a new *Quebec Education Program* (QEP), introducing a socio-constructivist and competency-based approach to learning.[6] That same year, the Ministry created the RÉCIT: "un RÉseau axé sur le développement des Compétences des

[5] Coincidentally, François Legault was the Premier of Quebec during the time of the coronavirus outbreak in 2020.
[6] New programs of study introducing the competency-based approach to the adult education sector were published in 2007 for levels below secondary two while those for secondary three and above were released starting in 2015. However, in 2021 adult education teachers were still waiting for some programs to be published and implemented.

élèves par l'Intégration des Technologies" (RÉCIT, 2020). This network is made up educational consultants tasked with training, guiding, and supporting teaching staff with the integration of technology for the purpose of developing student competencies.[7]

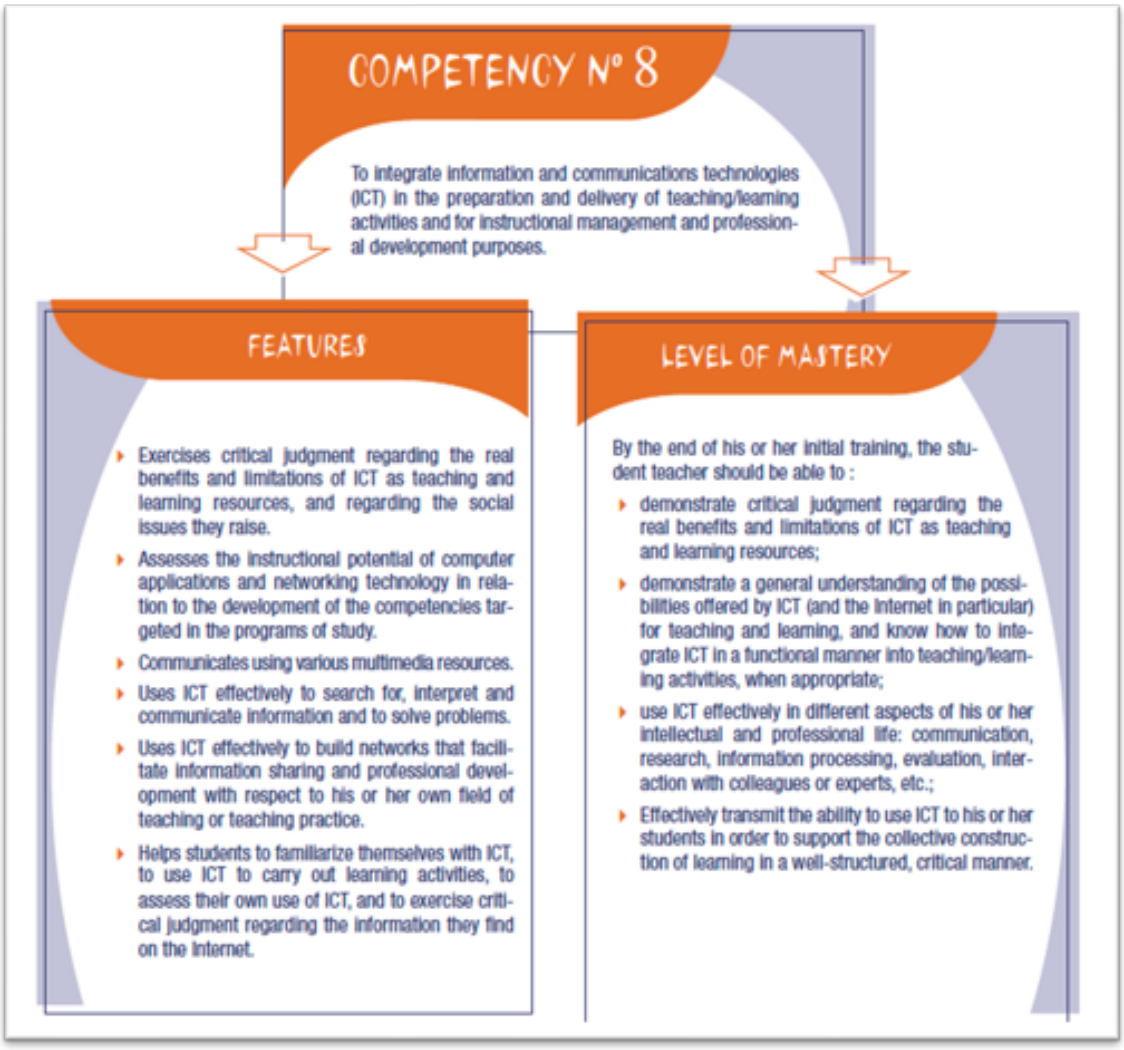
Finally, in 2001 the Ministry released a reference framework for university-level teacher training programs featuring twelve competencies. The goal of this new framework was to bring teacher training in line with the QEP and to increase the professionalization of the teaching occupation. Competency #8 targeted the integration of "information and communications technologies (ICT) in the preparation and delivery of teaching/learning activities and for instructional management and professional development purposes" (Government of Quebec, 2001, p. 137). For a summary of the features and levels of mastery associated with this competency, please refer to Figure 2 on the next page.

The purpose of all these changes was to bring the Quebec education system in line with the demands of the 21st century, as the previous reform had taken place in the 1960s following the Parent Commission.[8] Though the demands of the 21st century were not explicitly laid out in the program, references to major trends such as globalization, the information explosion, and rapid technological development provide some hint as to these new challenges. The use of ICT in teaching and learning was also made compulsory, and suggestions were provided for how teachers could use them to help students develop their subject-specific competencies (Government of Quebec, 2000, p. 14).

[7] The first RÉCIT consultant specifically dedicated to the English adult education sector was hired in 2007.
[8] This reform focused on the secularization and democratization of education during Quebec's Quiet Revolution when the provincial government took control over the education sector, which had previously been the responsibility of religious institutions, namely the Catholic Church. This reform included the creation of the Ministry of Education.

Figure 2

Professional Teacher Competency #8



Government of Quebec. (2001). *Teacher training: Orientations & professional competencies*. Ministry of Education. 137. http://www.education.gouv.qc.ca/fileadmin/site_web/documents/dpse/formation_ens_a.pdf

The use of ICT in classrooms was further promoted with the Ministry of Education's "School 2.0: Connected Classrooms" initiative from 2011 to 2016. Over $150 million was provided for school boards to purchase interactive whiteboards, computers, and digital educational resources (Gouvernement du Québec, 2011 & 2012). How-to training and

pedagogical support were provided by RÉCIT consultants to help with the integration of these resources into teachers' practice.

Pre-service Teacher Training in Quebec

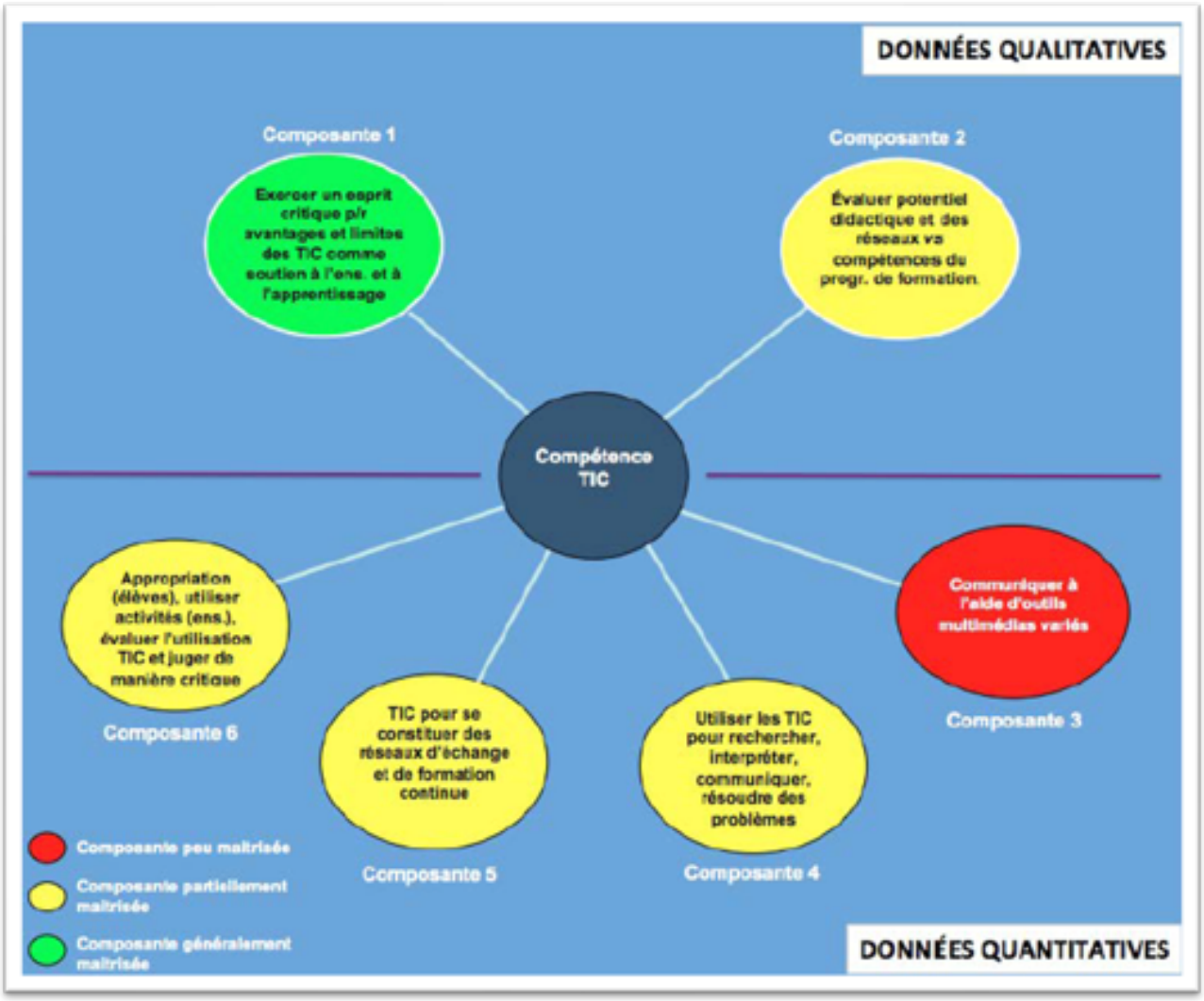
With the introduction of the twelve professional competencies for teachers, university teacher education programs had new mandates to instruct and evaluate pre-service teachers on the pedagogical use of ICTs. In 2012, Villeneuve et al. published a mixed-methods study investigating Quebec's pre-service teachers' mastery of the eighth professional competency during their internships. Their sample included more than 2,000 pre-service teachers at nine Francophone universities in the province. Of those in the secondary stream – those closest to AGE teachers – more than 50% indicated that they never or rarely used digital technologies in their teaching. When asked about the disadvantages of integrating technology in teaching, participants named three issues in their focus groups: lack of available equipment or obsolescence of available equipment, the large amount of time required to use technology in teaching, and classroom management issues related to using said technology. The researchers' analysis further revealed that only one feature of Competency #8 had been perceived as mastered by pre-service teachers. See Figure 3 on the next page for a visual representation of these results.

Lefebvre and Fournier (2014) studied the ICT use of nine elementary pre-service teachers at l'Université du Québec à Trois-Rivières in their second, third, and fourth years of teacher training. Using Carole Raby's 2004 model of the process of ICT integration, they found that all teachers were integrating technology for pedagogical use and not simply for personal or professional use. Of the four stages of pedagogical use, ranging from familiarization, exploration, infusion, and appropriation, no students demonstrated that they had reached the appropriation phase and regularly used ICT to transmit and construct knowledge in the

classroom. Fourth-year students primarily ranked in the exploration phase, using ICTs to support whole-class teaching or for reinforcement and enrichment, and in the infusion phase, which involved the active use of technology by students in their learning.

Figure 3

Synthesis of the Assessment of Competency #8



Villeneuve, S., Karsenti, T., Raby, C. & Meunier, H. (2012). Les futurs enseignants du Québec sont-ils technocompétents? Une analyse de la compétence professionnelle à intégrer les TIC. *Revue internationale des technologies en pédagogie universitaire /International Journal of Technologies in Higher Education, 9*(1-2), 93. https://doi.org/10.7202/1012904ar

A few years later, Ntebutse, Bourgeois, and Lopez (2018) conducted interviews with 36 secondary pre-service teachers at three of Quebec's francophone universities about the role pre-service teachers have to play in developing students' digital competencies. The teachers raised several important concerns that they felt impacted their ability to fulfill this duty, including:

- the poor technological infrastructure and lack of financial investments in technology in their school placements;
- the low level of digital competency of their associate teachers and their lack of understanding in the integration of digital tools in teaching; and
- most strikingly, the "insufficient, inappropriate, or obsolete" training that they had received in integrating ICTs at university (p. 656).

While it is true that pre-service teachers are expected to demonstrate a certain level of proficiency in all twelve professional competencies by the end of their degrees, it is clearly naïve to state that Quebec's teacher education programs adequately prepare teachers to integrate technology for strong pedagogical use. By sequestering technological skills as one of twelve teacher competencies, rather than embedding said skills in all competencies, the Ministry's 2001 framework has served to frame technology as an afterthought and not as an essential component of modern teaching practice.

In 2015, more than a decade after the launch of the professional competency framework, Karsenti and Grégoire offered a reflection that gave an indication as to why mastery of Competency #8 eluded new graduates. They noted that the eight francophone universities offering teacher training programs in Quebec each provided only one mandatory forty-five-hour course on the integration and use of digital tools in education. Moreover, these courses took place at the beginning of each four-year program and so were not attached to practical

applications such as a teacher internship. A recent search of the teacher training programs offered at Quebec's three English-language universities indicates a similar program structure at those institutions. Karsenti and Grégoire comment that a lack of obligatory professional development for university professors may be an important factor behind this type of program structure, as it is only *necessary* for one professor – the person teaching the technology course – to be knowledgeable about integrating digital technologies.

All of the studies mentioned in this section pertain to the experience of preservice teachers in elementary and secondary education teacher training programs offered at Francophone universities in Quebec. There was no available research on the integration of digital technologies for pre-service teachers at McGill, Concordia, or Bishop's universities. The Adult General Education sector uses a modular version of the secondary *Quebec Education Program* and most of our teachers possessing teaching certificates were trained as secondary teachers. As not all adult education teachers currently possess a teaching certificate, these individuals would not have received any mandatory structured training on digital technologies in relation to the professional competencies. In addition, as the Ministry's teaching competency framework was released in 2001, any teachers who graduated from Quebec's universities before that time would also not have received this training. This being said, any adult education teachers who have gone through Quebec's teacher training programs after 2001 are also unlikely to have received university instruction on using digital educational technologies in an *individualized* education setting, which is common in the AGE sector.

In-Service Teachers' Technological Use in Quebec

How does pre-service teachers' use of digital technologies for teaching and learning compare to that of in-service teachers? Stockless, Villeneuve, and Beaupré (2018) conducted a

survey of the technological competence of over 1,700 elementary and secondary teachers at a large Francophone school board in the greater Montreal area. Unsurprisingly, teachers were most comfortable with office suite software, basic communication tools, and interactive digital whiteboards, though they rated their competence with these tools as being at the "novice" level. While almost three-quarters of respondents indicated using digital tools to create pedagogical material from 25 to 75% of the time, this largely involved teachers using word processing and presentation software to design slideshows and format lecture notes. The authors note that this suggests digital technologies are often being used to favour a transmission of knowledge approach to teaching, rather than more active learning methods as mandated in the Quebec Education Program. Lastly, the majority of teachers estimated using technology in their teaching about 25% of the time. These results are not encouraging.

To get a sense of the reasons behind teachers' low levels of technological mastery, Stockless, Villeneuve, and Beaupré included an open-ended question on their 2018 survey. Over 85% of the survey respondents indicated that they often ran into obstacles when integrating technology into their teaching. The researchers divided these responses into six types of obstacles: technological resources, knowledge and competence, institutional, attitudes and beliefs, evaluations, and cultural. Close to 90% of the responses listed technological resources as the main obstacle, with problems relating to technical issues and unreliable equipment or networks in addition to a general lack of equipment, infrastructure, or software.

Rasmy and Karsenti (2016) looked at technology integration through the lens of continuous professional development and teacher motivation. Their sample consisted of 64 French sector teachers from both elementary and secondary schools in the Montreal region who had previously participated in various professional development activities around ICTs in the

past five years. Shockingly, when it came to teachers' satisfaction with the relevance of this professional development, less than 50% of the respondents agreed that their training was linked to their actual teaching practice. Additionally, almost 13% of teachers mentioned a mismatch between the objectives of the training received and teachers' various technological skill levels. The type of training favoured by teachers was small school groups, such as communities of practice, while the least preferred types of professional development included university courses and training offered by school boards.

Karsenti's (2016) study on the uses, benefits, and challenges of interactive whiteboards – or IWBs – provides an in-depth look at how over 1,000 teachers in Quebec felt about this new tool after its initial introduction in 2011. While almost 75% of the teachers surveyed preferred the IWB to a chalkboard, more than half of them indicated that they 'sometimes,' 'rarely,' or 'never' used the IWB in class. When it was used, the IWB functioned mainly as a digital projector for teachers to share slideshow presentations, videos, and notes or conduct internet searches. Teachers were happy to have access to the internet in their classrooms via the IWB, but over 90% of them reported lots of technical issues related to the use of IWBs which teachers were often unable to solve without help. One high school teacher stated, "I've never seen anything that broke down so much… and you have to wait for the technician … he spends all his time fixing them" (p. 12). Those who did use the IWB had to also create backup lesson plans, which "double[d] the work" (p. 14). Many teachers also commented that learning how to use the interactive whiteboard and preparing lesson material took up a great deal of time. Though they had received some initial training, they felt they needed more contextualized practice learning how to use the technology in their own classroom setting before implementing it with their students.

Although these three studies focused on the technology integration obstacles faced by youth sector teachers, these same obstacles are also present in the Adult General Education Sector within the English-speaking community. In addition, many adult education centres lack devices and reliable internet connections. Most do not have on-site IT support to help them troubleshoot issues when they arise. Moreover, until recently many centres did not provide adult education students with school board email accounts, which are necessary for the use of many digital educational tools, as these students are viewed as transients by school board IT departments.

Quebec's Digital Competency Framework

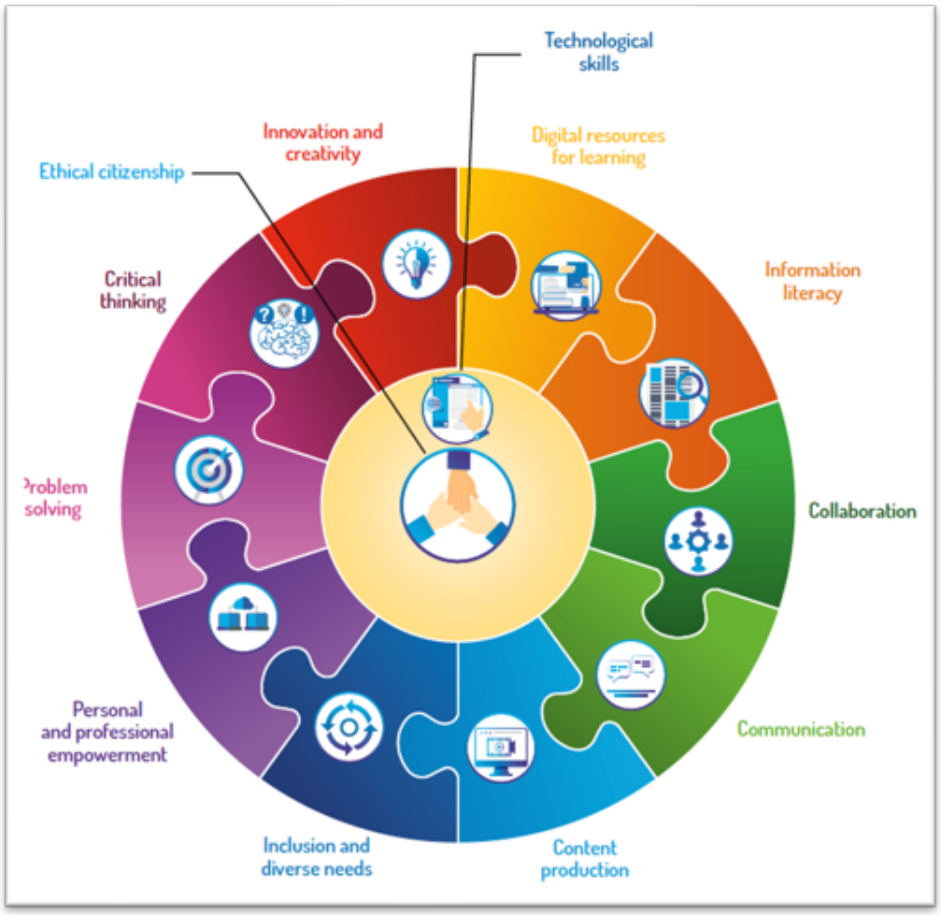
When Quebec's Ministry of Education launched their *Digital Action Plan* in 2018, the plan included the creation of a reference framework of cross-curricular digital competencies. The *Digital Competency Framework* (2019) was developed by the Group de recherche interuniversitaire sur les impacts pédagogiques des technologies de l'information et de la communication, more commonly referred to as GRIIPTIC. The development process included three phases: the analysis of over 70 digital competency and information literacy frameworks from around the world, the publication of a report on emerging digital trends in education, and finally a period of consultation with a variety of educational stakeholders including Ministry representatives, teachers, educational consultants (like the RÉCIT), and librarians.

The objective of the framework is to foster the digital competency development of both teachers and students in all educational sectors. Digital competency is defined as "a set of skills necessary to the confident, critical and creative use of digital technologies to achieve objectives with regard to learning, work, leisure, and inclusion or participation in society" (p. 7). The concept of digital competency is broken down into twelve dimensions made up of several

elements. For a visual summary of the twelve dimensions, please see Figure 4. For an in-depth look at one of the twelve dimensions, 'Harnessing the potential of digital resources for learning,' please see Figure 5 on the next page.

Figure 4

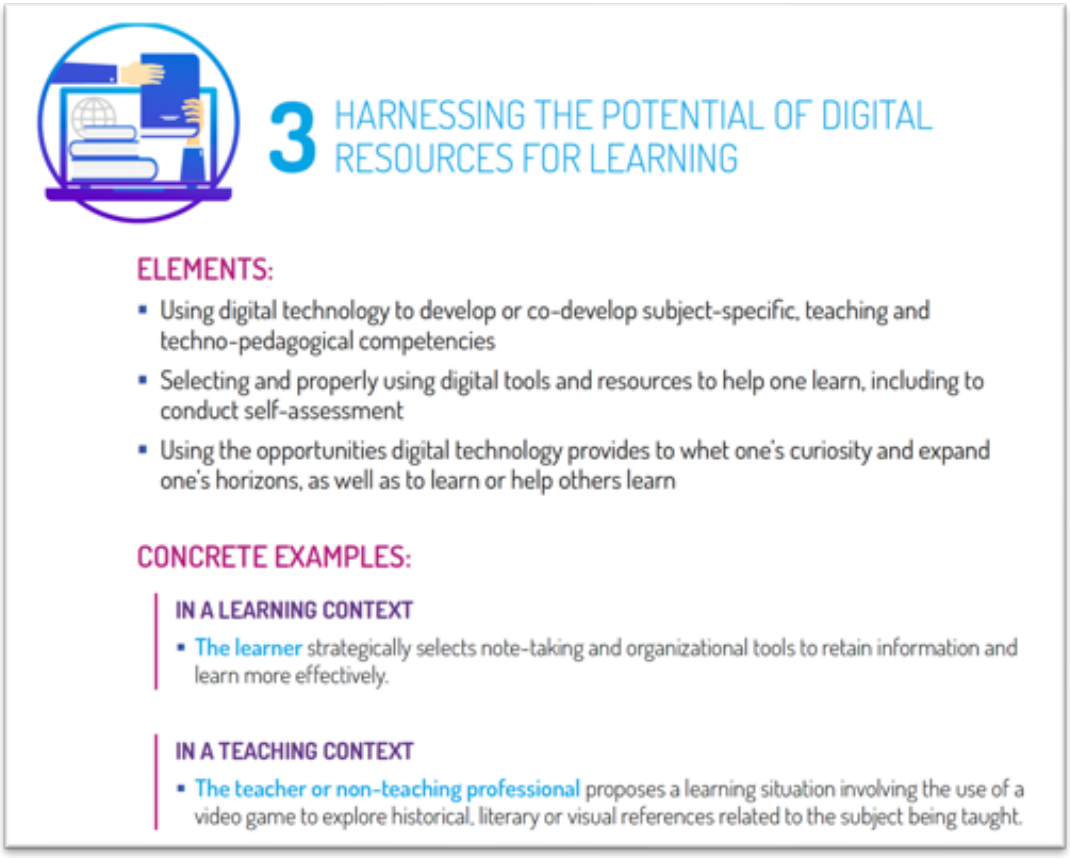
The Digital Competency Framework



Government of Quebec. (2019). *Digital competency framework*. Ministry of Education and Higher Education. 12. http://www.education.gouv.qc.ca/fileadmin/site_web/documents/ministere/Cadre-reference-competence-num-AN.pdf

Figure 5

Dimension Three - Harnessing the Potential of Digital Resources for Learning



Government of Quebec. (2019). *Digital competency framework*. Ministry of Education and Higher Education. 15. http://www.education.gouv.qc.ca/fileadmin/site_web/documents/ministere/Cadre-reference-competence-num-AN.pdf

To support the implement of the *Digital Competency Framework*, the Ministry released three additional tools:

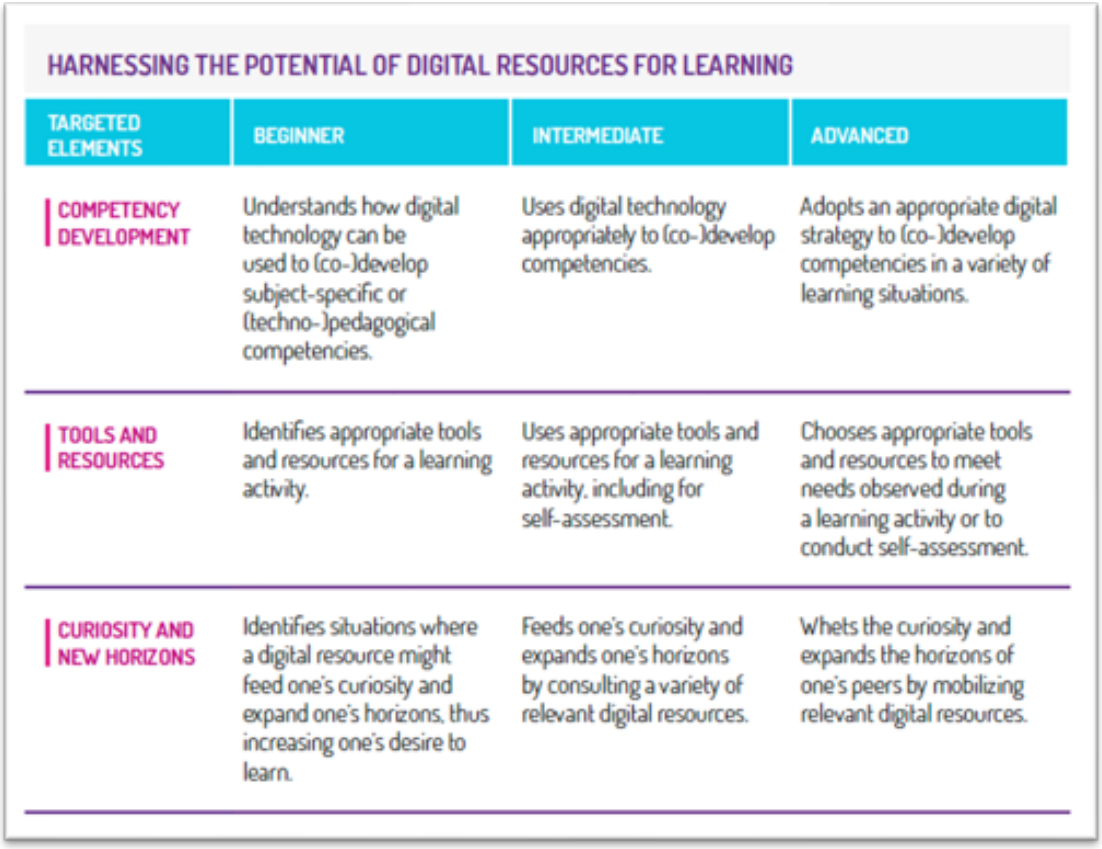
- the *Digital Competency Development Continuum*,
- a *Pedagogical Guide*, and
- a digital competency diagnostic platform: *competencenumerique.ca*.

The *Digital Competency Development Continuum* (2020) focuses on the specific elements of each dimension and includes a progress matrix with three levels: beginner, intermediate, and advanced. Figure 6 provides an example of the progress matrix for dimension

three, 'Harnessing the potential of digital resources for learning.' The continuum is aimed at developing the digital competencies of educational staff and students "through a progressive inter-level approach" where all are working towards an advanced level of competency, though the document states that "what constitutes advanced competency may differ depending on the level" of education (p. 5).

Figure 6

Progress Matrix for Dimension Three of the Digital Competency Framework



HARNESSING THE POTENTIAL OF DIGITAL RESOURCES FOR LEARNING

TARGETED ELEMENTS	BEGINNER	INTERMEDIATE	ADVANCED
COMPETENCY DEVELOPMENT	Understands how digital technology can be used to (co-)develop subject-specific or (techno-)pedagogical competencies.	Uses digital technology appropriately to (co-)develop competencies.	Adopts an appropriate digital strategy to (co-)develop competencies in a variety of learning situations.
TOOLS AND RESOURCES	Identifies appropriate tools and resources for a learning activity.	Uses appropriate tools and resources for a learning activity, including for self-assessment.	Chooses appropriate tools and resources to meet needs observed during a learning activity or to conduct self-assessment.
CURIOSITY AND NEW HORIZONS	Identifies situations where a digital resource might feed one's curiosity and expand one's horizons, thus increasing one's desire to learn.	Feeds one's curiosity and expands one's horizons by consulting a variety of relevant digital resources.	Whets the curiosity and expands the horizons of one's peers by mobilizing relevant digital resources.

Government of Quebec. (2020). *Digital competency development continuum*. Ministry of Education and Higher Education. 15. http://www.education.gouv.qc.ca/fileadmin/site_web/documents/ministere/continuum-cadre-reference-PAN-en.pdf

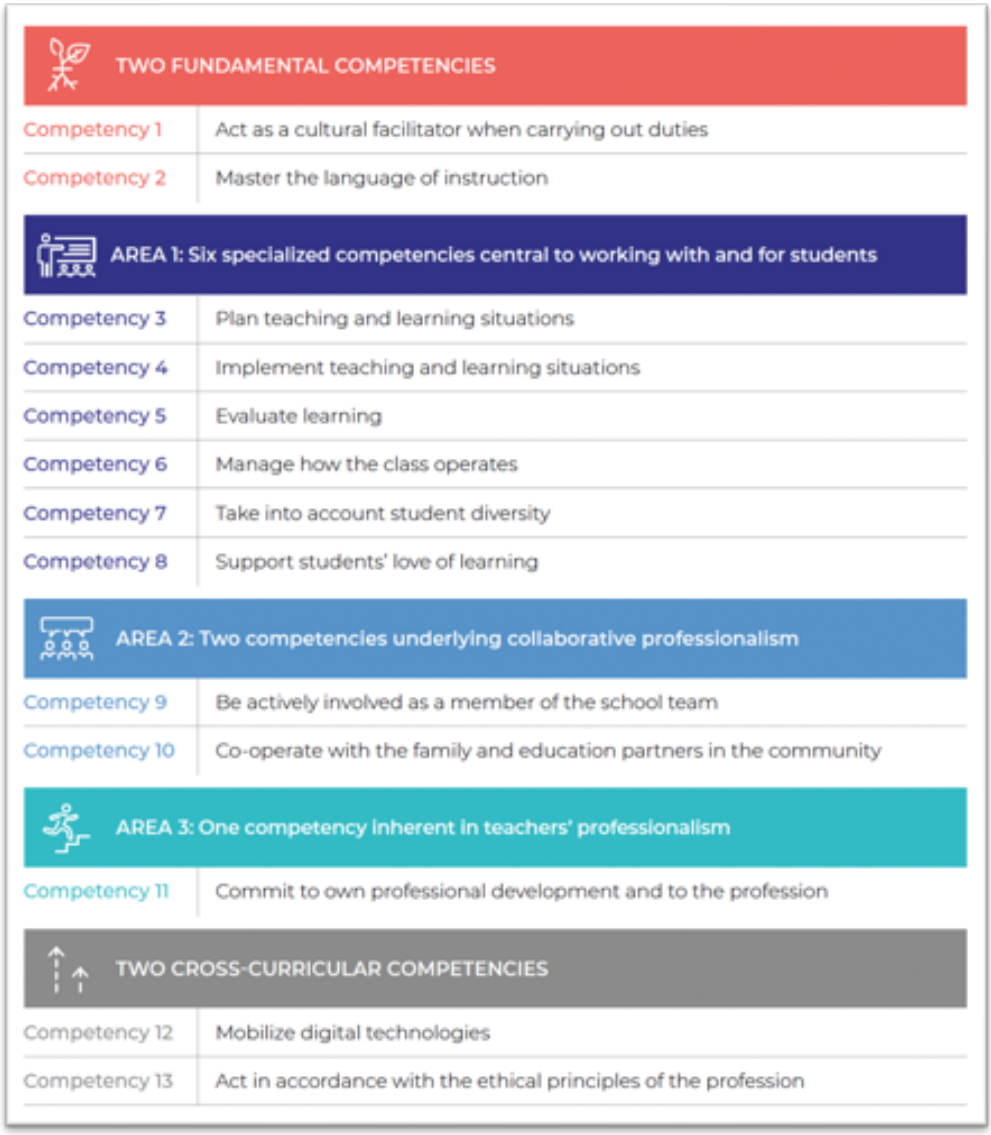
The *competencenumerique.ca* platform[9] enables educators to assess their level of digital competency and those of their students, while the *Pedagogical Guide* provides teachers with a structure for planning activities that will help students develop their digital competency within the context of their subject-specific learning.

The overall importance of the *Digital Competency Framework* is highlighted in the Ministry's new *Reference Framework for Professional Competencies* for teachers (2021), another measure of Quebec's *Digital Action Plan*. Published during the second wave of the COVID-19 pandemic, this document replaces the original 2001 version of the teacher competencies and introduces a change in terms of how the integration of technology is framed: the "mobiliz[ation] of digital technologies" is now explicitly categorized as a cross-curricular competency (p. 43). The twelve key elements of this new competency are taken directly from the twelve dimensions of digital competency from the *Digital Competency Framework*. Please see Figure 7 for a visual summary of the new professional competencies.

[9] This platform is currently only available in French. RÉCIT consultants have reported scoring low levels of digital competency, which is surprising considering their expertise. This does not bode well for how teachers and students may rank on the platform. Unrealistically low scores are likely to discourage users' desire to develop their digital competency in the future.

Figure 7

Visual Summary of the Professional Competencies



Government of Quebec. (2021). *Reference framework for professional competencies – For teachers.* Ministry of Education. 43. https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/education/publications-adm/devenir-enseignant/reference_framework_professional_competencies_teacher.pdf?1611584651

While the *Digital Action Plan* and the *Digital Competency Framework* were only launched a few years ago and are still little-known among educational professionals, the COVID-19 pandemic has called attention to their primary shortcomings. Firstly, both documents start from the premise of the "effective *integration* and optimal use of digital technologies" (*Digital*

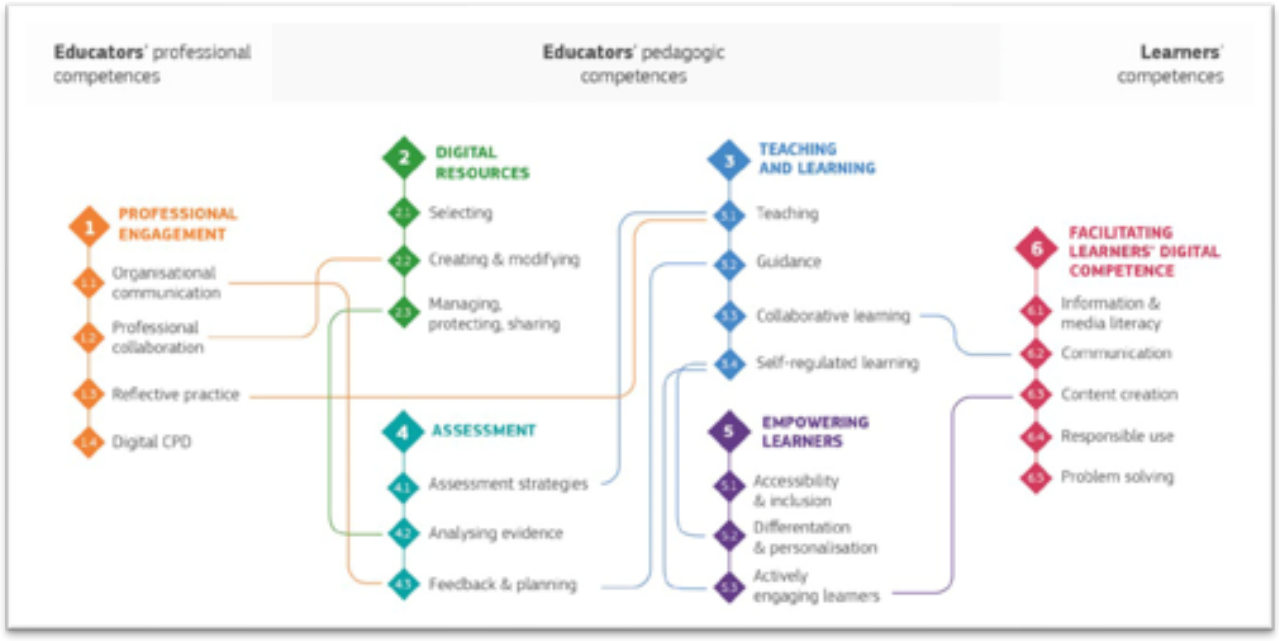
Action Plan, p. 9, emphasis added). This presumes that instruction will take place in person in a classroom context and that technology will be used *in support of* learning. Learning in a completely online environment where technology is the primary medium for instruction, as was the case for many students at various points throughout the pandemic, does not seem to fit in this plan. This is likely because Quebec's Education Act "prevents any formal full-time online learning" (State of the Nation: K-12 E-Learning in Canada – Quebec, 2021).[10] This puts Quebec well behind other provinces in Canada, like Ontario, that have full-fledged online learning options available to their students.

Secondly, while the mobilization of digital technologies – via the 12 dimensions of digital competency laid out in the *Digital Competency Framework* – is included as a cross-curricular competency in the *Reference Framework for Professional Competencies*, this inclusion falls somewhat flat in that this competency is still divorced from the other competencies. Instead of presenting digital competency as one of many and stating that it is cross-curricular, why did the Ministry of Education not directly embed it into the elements of each competency to make those connections more concrete for educators? The *European Framework for the Digital Competence of Educators* – shown in Figure 8 – does an excellent job of this, concretely connecting pedagogical and technological competencies.

[10] This report notes that a 2017 amendment allowed the Minster of Education to authorize five-year pilot projects offering online courses to registered students in Quebec. This was prompted by the upcoming inauguration of the Digital Action Plan, but perhaps the pandemic and the success of these pilot projects may bring about a permanent change in this law.

Figure 8

European Framework for the Digital Competence of Educators



Redecker, C. (2017). *European Framework for the Digital Competence of Educators: DigCompEdu*. Publications Office of the European Union. https://publications.jrc.ec.europa.eu/repository/handle/JRC107466

COVID-19 and Educational Disruption

This section describes the disruptions experienced in the education sector due to the COVID-19 pandemic.

Response to COVID-19

The danger posed by the spread of the coronavirus caused educational institutions to shut down worldwide in the spring of 2020. Many school teams – including adult education centres in Quebec – were thus faced with an immense challenge: implementing online learning for the first time with little preparation. Those who have experience with developing, teaching, or researching online courses quickly called attention to the inaccuracy of using the term 'online learning' to describe these initial efforts. In higher education, where the majority of online learning occurs, it takes at least six months of careful planning to create an effective online

course followed by years of iteration for teachers to become comfortable teaching with this format (Hodges, et al., 2020). This process is often done with the support of an instructional design team. Online courses can be run synchronously – i.e., live – but are more commonly run asynchronously – i.e., at your own pace. The term *emergency remote teaching* thus emerged as a more appropriate phrase for the shift that occurred in response to the early COVID-19 closures. It is defined as a "temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances" (Hodges, et al., 2020).

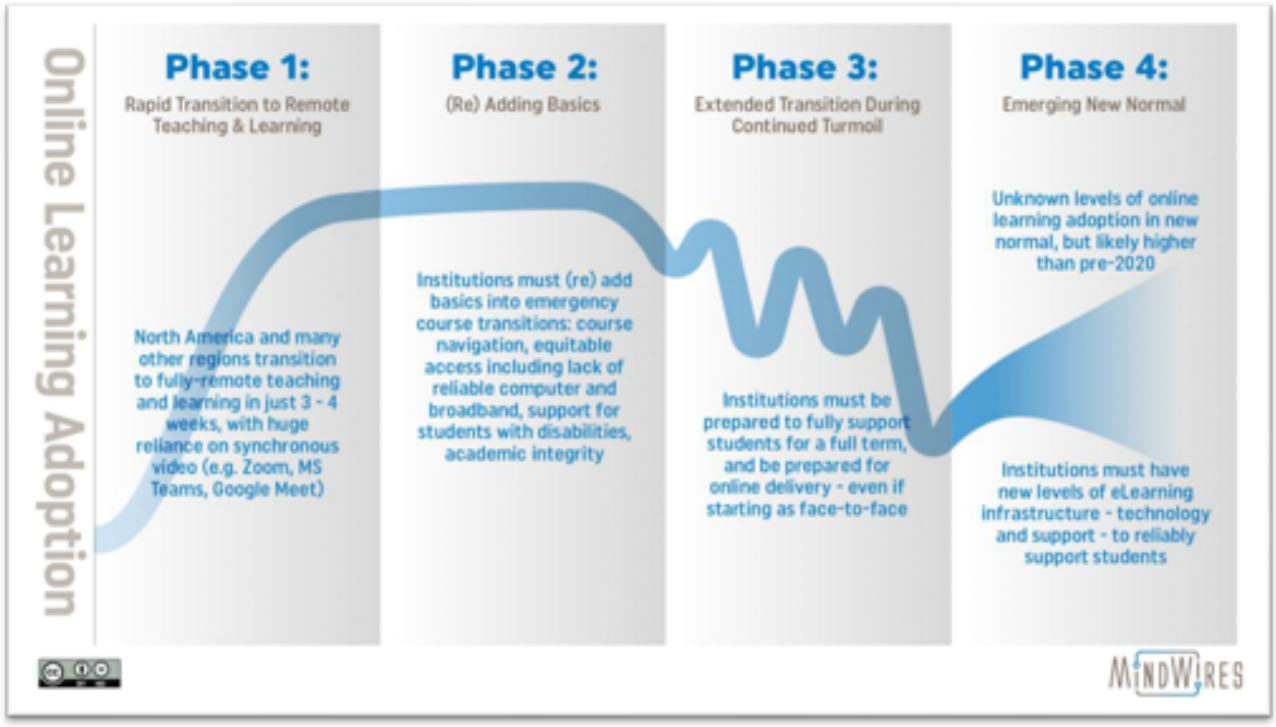
As schools opened up their doors for the 2020–2021 academic year and the pandemic continued, many adult education centres adopted either online or hybrid learning approaches. In hybrid learning models "content is delivered both online and in onsite facilities" and "at least 50 percent of learning activities are transferred to the online format" (Mossavar-Rahmani & Larson-Daugherty, 2007, p. 1). While normally hybrid education features an alternating schedule of days with some groups of students learning synchronously in class while others learn asynchronously from home, many schools choose to implement blended hybrid instructional models (Bartlett, 2022) with teachers working with students in class and at home *at the same time*. This decision was often made for financial reasons, to ensure that student registrations remained high and staff members remained employed.

Throughout the 2020–2021 school year, educators in Quebec dealt with continued turmoil characterized by class closures, fluctuating case numbers, regional lockdowns, and curfews, forcing them to continue to adapt their instruction to changing realities. Figure 9 provides a helpful visualization of the multiple phases of educational response to the ongoing COVID-19 pandemic. The province's Ministry of Education introduced various supports to help learning continue during these disruptions, including:

- the *École ouverte* website, which proposed various digital resources for educational use based on grade level and subject,
- an online course for teachers on distance education, offered by TÉLUQ,[11] and
- additional funds for the purchase of new digital devices for student use (Nagle, LaBonte, & Barbour, 2020 & 2021).

Figure 9

Multiple Phases of Education Response to COVID-19



Originally created by Phil Hill, see https://philonedtech.com/revised-outlook-for-higher-eds-online-response-to-covid-19/, and adapted by Nagle, J., LaBonte, R., & Barbour, M. (2021) for the "Toggling between lockdowns: Canadian responses for continuity of learning in the 2020-2021 school year" *Canadian eLearning Network* report, available via https://sites.google.com/view/canelearn-ert/

[11] Unfortunately, this course has yet to be translated into English and so was not accessible to educators in Quebec's English-speaking community.

Despite these measures, educators stress levels remained high. Two weeks after Quebec revealed its fall 2020 back to school pan, an informal poll conducted by CBC Montreal and Radio-Canada revealed that more than 1,200 of the almost 2,000 educational staff surveyed felt "very" or "somewhat" unsafe returning to school under the new plan (Montpetit, et al., 2020). One high school teacher commented: "I feel like they're throwing me into the lion's den and hoping everything goes well." This feeling was mirrored by educators across Canada. A survey conducted by the Canadian Federation of Teachers in October of 2020 revealed that over 70% of the 14,000 survey participants felt somewhat, very, or severely stressed and that they were struggling to cope with their daily responsibilities (p. 5 & 8). Shifting safety measures, and the effort required to maintain them, were also a source of frustration for many. Sixty percent of teachers reported feeling drained by time spent on digital devices, while 38% also felt drained by adjusting to new pedagogical practices (p. 8). The majority did not feel supported by their Ministries of Education, though colleagues were recognized as an important source of support.

Response in Adult Education

As of yet, there is very little research on the impact of the COVID-19 pandemic on adult education instructors or students in settings that are similar to the ones in the AGE sector of Quebec. Three pertinent studies emerged in a review of the available literature.

Lotas (2021) wrote about her experience as an adult literacy practitioner at the Academy of Hope Adult Public Charter School in Washington, D.C. Her school offers preparatory courses for General Educational Development (GED) tests and the majority of students at AoH are African American and living below the poverty line. All courses at AoH were converted to digital and analog formats during the initial period of school shutdowns. Seventy-five percent of students at AoH did not have access to the types of devices needed to make the most of distance

learning and most made do with their cell phones. This experience was frustrating for both students and staff, resulting in learner disengagement. Some students also juggled the sharing of devices as both they and their children engaged in virtual learning. Though this shift to distance learning was "time-intensive, stressful, and exhausting" for AoH staff, Lotas highlights that providing social and emotional support to students in crisis was even more difficult, as teachers struggled to help learners who had been evicted from their homes or who had lost family members due to COVID (p. 52).

Challenges related to devices were addressed in the following school year as Chromebooks, low-cost laptops powered by Google Chrome, and internet access were provided to each student after extensive fundraising and advocacy efforts. The school also introduced email addresses and passwords for each student, which allowed them to log in to a learning management system to find learning resources and assignments and interact with their teachers. A technology bootcamp helped students learn how to use these new tools. Lotas describes these changes as being a "catalyst for AoH," as it provided them with an opportunity to bring the dream of a distance education program for their students into reality (p. 52). She notes that this type of flexibility in instruction is important for adult learners with busy lives.

Zukowski, Parker, Shetterly, and Valle (2021) faced similar challenges with their shift to remote learning at a non-profit that offers high school equivalency courses to disadvantaged youth, ages 17 to 24, in Philadelphia. They found that the adoption of virtual education was not ideal for their many of their learners who lived in unsafe conditions, facing housing insecurity and domestic violence. Teachers quickly realized that the curriculum would have to take a backseat to wellness checks and the allocation of resources like food and computers. Limited budgets meant that not all students received these resources, which further widened existing gaps

in access to technology. Teachers also had to contend with adjusting their individualized and group curriculum to one that was suited for an online environment as students struggled to complete their assignments or attend virtual sessions. In the end, the staff adopted a 1:1 curriculum using the IXL learning platform, as it was compatible with students' cell phones, though they felt that this solution was less than ideal to meet their students' needs.

Lastly, Smythe, Wilbur, and Hunter (2021) studied the experiences of 18 community-based adult educators in British Columbia who served newcomers and people with low incomes during the pandemic. As in the first two articles, these community educators helped their learners grapple with food, housing, and financial insecurity by organizing GoFundMe pages, delivering food boxes, and assisting with emergency benefit applications. They also prepared customized learning packages for their students, transitioned their classes online, and spent lots of time checking in with their students and teaching them how to use the new video conferencing tools. One educator stated: "This work is all about relationships and I could never look people in the eyes if I abandoned them now" (p. 16). Additionally, many participants felt that the pandemic "collapsed traditional hierarchies between […] teacher and learner," allowing for direct interpersonal communication, collaborative problem solving, and more responsive programming (p. 21).

Though the settings of each of these studies is not quite the same as that of an Adult General Education centre in Quebec, the student population in question is very similar. These programs cater to adult learners – be they young students or mature students – who are working to obtain their high school diplomas or perhaps gain proficiency in a new language after moving to Canada and who are often struggling financially. In addition, these programs usually receive less public recognition and funding than institutions in the youth sector or higher education

sectors. Lastly, as in adult education in Quebec, not all program educators are certified teachers, though all are dedicated to helping their students achieve success.

Response in K-12

Though this study focuses on the experiences of adult education teachers during the COVID-19 disruption, the lack of research on this population makes it necessary to explore how educators in the K-12 sector have responded to the crisis in order to assess similarities and differences.

Kaden's (2020) case study of the experience of one secondary teacher working in rural Alaska describes the impacts on said teacher's instructional practices and workload. Kaden conducted weekly semi-structured interviews and 10 observations of online teaching with Mr. Carl from March to May 2020. Mr. Carl's situation is comparable to that of adult education teachers in that he taught multi-subject and multi-level classes and worked with students with many academic and socioeconomic challenges. His school had a 1-1 device to student ratio set up pre-pandemic, which was very helpful with the switch to online learning. In addition to investing in technology, the district had also ensured that teachers were trained in the use of new devices and had established a strong technology support infrastructure that was equipped to respond to the needs of both teachers and students during the school closures.

While he had two decades of experience as a teacher, including some in distance education, Mr. Carl indicated that his workload increased dramatically even though instructional time was reduced to one or two hours per week per subject. For the first month of online learning, he regularly worked from 60 to 70 hours a week. Almost 40% of this time was spent planning online instruction and giving students feedback. "I greatly underestimated the complexity of successful online teaching, the amount of content I could teach, and how to

engage students," he stated (p. 8). In terms of support, Mr. Carl noted that professional development with his colleagues, dedicated IT support time, and support from administrators were helpful for weathering online instruction.

Instead of trying to recreate the regular school experience, Mr. Carl worked hard to humanize distance learning. Establishing routines, ensuring frequent communication and feedback, providing opportunities for student collaboration, tailoring assignments to students' individual interests and skills, and offering students choices were all key takeaways from his experience. While some of his students greatly appreciated the freedom that came with online learning, a few of his more vulnerable learners vanished from the grid, illustrating once again that online learning is not an equitable solution for all learners.

In their article entitled "Emergency Remote Teaching With Technology During the COVID-19 Pandemic: Using the Whole Teacher Lens to Examine Educator's Experiences and Insight," Trust and Whalen (2021) described the cognitive, social, affective, and identity growth of 265 teachers from the United States. Ninety-one percent of survey respondents reported changes in cognitive growth relating to shifts in professional knowledge, skills, and perspectives. These included learning how to use new technologies for distance teaching, realizing the importance of relationships and social interaction for students when learning online, and getting comfortable with flexible and adaptive instruction. Close to a quarter of educators also shared examples of affective growth in their willingness to take risks and their ability to forgive themselves when things went wrong in front of students. Another 23% demonstrated social growth in that they learned to ask other teachers for help, either by reaching out to colleagues in their school or district or by engaging with other teachers via social media. Lastly, 19% provided

examples of identity growth by working to differentiate between their professional and personal lives.

All teachers were also asked to share their recommendations and advice for educators who may engage with emergency remote teaching in the future. Many of their responses related to shifting from trying to replicate traditional teaching practices towards adopting new approaches (cognitive growth). Others spoke of cultivating open mindsets and accepting what was inside or outside of their control (affective growth) and the importance of sharing and collaborating with other teachers to break down feelings of isolation (social growth). Finally, educators also highlighted the need to set clear boundaries between their work and home lives (identity growth). The results of this study illustrate the importance of a holistic approach to professional development in the context of emergency situations.

These studies by Kaden (2020) and Trust and Whalen (2021) focus on how K-12 teachers experienced the early days of the pandemic in the last quarter of the 2019–2020 school year. This current study will build on the existing research on how adult educators experienced the pandemic from March 2020 to the end of the 2020–2021 school year as well as how they used digital technologies for teaching and learning during this time as compared to pre-pandemic.

Chapter 3: Methodology

This section begins with an overview of my study's research design and research questions. It then details the research setting and the process for selecting participants, followed by an explanation of the data collection instruments, procedure, and analysis. It concludes with a discussion of the measures put in place to ensure the study's trustworthiness and rigour and a reflection on my positionality as the researcher.

Research Design and Questions

The purpose of this research is to examine the experiences of Adult General Education teachers in Quebec's English community in response to the COVID-19 pandemic. More precisely, it will focus on their use of digital technologies for teaching and learning prior to and during the pandemic. This research poses two questions:

- How have Adult General Education teachers experienced the shifts related to the use of digital technologies during the COVID-19 pandemic?
- What disruptions have occurred in the English-speaking Adult General Education community due to COVID-19?

Creswell (2007) writes: "We conduct qualitative research when we want to empower individuals to share their stories, hear their voices, and minimize the power relationships that often exist between a researcher and the participants in a study" (p. 40). In the spring of 2020, Adult General Education teachers rose to the challenge of launching emergency remote learning for their students. In the 2020–2021 school year, they faced new hurdles as they navigated online and hybrid teaching amidst closures and lockdowns. Throughout this experience, decision-making followed a top-down process, forcing teachers to adapt to a variety of scenarios with

little preparation or warning. Their thoughts, struggles, and triumphs deserve to be acknowledged and valued.

This study makes use of a case study research design. Creswell (2007) defines a case study as:

> a qualitative approach in which the investigator explores a bounded system (a *case*) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving *multiple sources of information* (e.g., observations, interviews, audiovisual material, and documents, and reports), and reports a case *description* and case-based themes. (p. 73)

As this study featured multiple members of Quebec's English Adult General Education community who work at various centres across the province, it is more appropriately considered a comparative or multiple case study, with each teacher's experience counting as a case. The selection of multiple cases allows for the particulars of specific cases to be highlighted and for similarities and differences to be identified between cases (Creswell, 2007).

Participants

This study took place in Quebec, Canada, and involved the participation of eight Adult General Education teachers from the province's English-speaking community. After receiving ethics approval from Concordia University, I presented a summary of my research proposal – as shown in Appendix #1 – to my colleagues in the English Pedagogical Consultants, or EPC, working group. These local consultants informed me of whom to get in touch with at their organization in order to obtain school board or Continuing Education Director approval. As not all school boards have local consultants, I also presented my proposal to the members of the Adult General Education Committee, known as AGEC, and to the Provincial Organization of

Continuing Education Directors – English, known as PROCEDE. This process helped raise awareness about my study and widened the pool of potential participants with a variety of experiences. From there, I received ethical approval from all nine English school boards,[12] as well as from the Littoral and Kativik school boards and the First Nations Adult Education School Council, though I did not hear back from the Cree School Board. As I adopted a case study design for this research, I chose to limit participation to one teacher per school board. This made for a possible total of 12 participants from across the province. In the end, the sample consisted of eight teachers from the nine English school boards, with all but the Eastern Shores School Board represented.

Teacher participants were selected using purposeful sampling to provide a detailed overview of the teacher experience in Adult General Education. Purposeful sampling allows the researcher to determine "information rich cases to be studied in depth" (Emmel, 2013, p. 33). Due to the ongoing COVID crisis and that the fact that the sample size was intentionally limited, I asked EPC, AGEC, and PROCEDE members to share my recruitment flyer – as shown in Appendix #2 – with potential participants in their school boards or centres. During my exchanges with these groups, I explained the two criteria for teacher participation:

- the teacher had experience with the world of adult education;
- they were teaching at the time of the COVID-19 school closures in March of 2020 and are teaching during the 2020–2021 school year.

This purposeful sampling strategy is known as criterion sampling (Emmel, 2013). The first criterion ensured that the sample included teachers with some experience in AGE and were

[12] The nine English school boards are: Central Quebec, Eastern Shores, Eastern Townships, English Montreal, Lester B. Pearson, New Frontiers, Riverside, Sir Wilfrid Laurier, and Western Quebec.

therefore familiar with the context. The second criterion allowed for a more complete picture of the impact of COVID on AGE teachers over the course of one year.

By choosing to have one participant per school board, I aimed for maximum variation sampling, another purposeful sampling strategy. Maximum variation ensures that a wide variety of teacher experiences were included in the study to provide insight into possible shared patterns across the province (Emmel, 2013). The sample consisted of eight teachers from centres in different communities teaching miscellaneous subjects through whole class or individualized instruction. The educators were also of varying ages, years of experience, and levels of job security. See Table 1 for an overview of the participants.

As teachers reached out to me by email about participating in the study, I had a brief Zoom meeting with each individual to review the information and consent form, which explained the purpose, procedures, risks, and benefits of my study, as well as the measures to ensure confidentiality and the conditions for participation. See Appendix #3 for the information and consent form.

Since we were not meeting in person, teachers took pictures of their signatures on the printed form to indicate their willingness to participate and sent these to me via email or text message. From there, I sent each participant an interview guide with sample questions as well as a link to a short demographic survey on LimeSurvey. See Appendix #4 for the interview guide and Appendix #5 for the demographic survey questions.

As part of the data collection process, teacher participants were given pseudonyms to ensure their privacy and their Adult General Education centres were identified solely based on their classification as urban, suburban, or rural.

Table 1

Research Participant Demographics

Pseudonym	Sex	Age	Experience	Employment Status	Neighbourhood	Instruction[13]	COVID classes[14]
Mélanie	Female	<30	2 years	Full-time contract, not a permanent employee	Urban	Individualized	Hybrid
Stella	Female	<30	6 years	Full-time contract, tenured	Rural	Individualized	Hybrid
Sally	Female	30–40	10 years	Part-time contract	Suburban	Individualized	Hybrid
Harry	Male	>60	35 years	Full-time contract, tenured	Urban	Individualized	Hybrid
Tatiana	Female	30–40	8 years	Full-time contract, not a permanent employee	Suburban	Whole class	Online
Claire	Female	40–50	15 years	Full-time contract, tenured	Suburban	Individualized	Online
Sapna	Female	40–50	21 years	Hourly pay	Suburban	Whole class	Online
Viviane	Female	40–50	25 years	Full-time contract, tenured	Suburban	Both	Online

[13] For definitions of individualized and whole class teaching, see the Glossary.
[14] For definitions of hybrid and online teaching, see the Glossary.

Data Collection Instruments and Procedure

Because of the COVID context, all researcher-participant interaction took place digitally for the safety of both parties. The primary instrument consisted of three semi-structured interviews with each participant:

- The first interview served as an introduction to learn more about the participant's teaching background and their use of digital technologies for teaching and learning pre-COVID.
- The second interview focused on their use of digital technologies during the school shutdowns in the spring of 2020 and during the 2020–2021 school year.
- The third interview took place once I conducted an initial analysis of the results; this allowed me to revisit some questions, check-in on their ed tech use in the 2021–2022 school year, and to conduct member-checking on emerging themes.[15]

Interviews one and two were conducted in May and June of 2021, while the third interviews took place in the fall of 2021. Interviews were scheduled at the convenience of the teacher participants and were held on Zoom. The length of the interviews varied, with interviews one and three taking less time than interview two. All sessions were recorded and saved on my computer and I transcribed the first two sets of interviews based on the closed captions generated by Zoom. See Appendix #4 for sample interview questions.

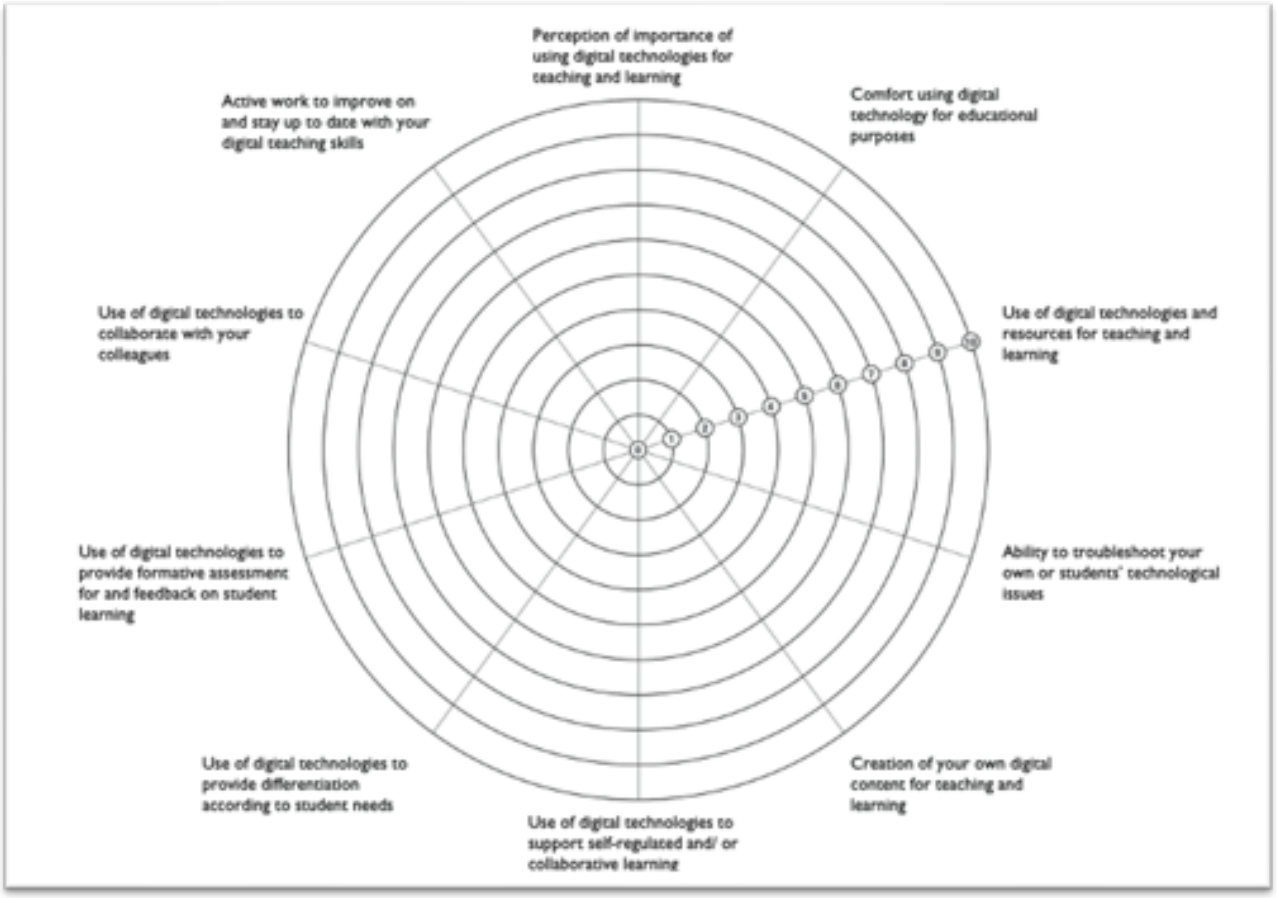
The interviews were complemented by the use of a Socratic Wheel, a tool developed by Chevalier and Buckles. This participatory action research technique is used to "assess and compare activities, options, or learning goals using multiple criteria" (Chevalier & Buckles, 2019, p. 43). This technique involves identifying relevant criteria around a certain topic and

[15] Note that I was only able to conduct third interviews with four out of eight participants.

choosing a rating scale. I develop ten criteria inspired by the Digital Competency Framework, by teacher competency #8 from the 2001 professional competencies, and by the European Digital Competency Framework. Please see Figure 10 for the chosen criteria.

Figure 10

Socratic Wheel Criteria for Digital Technology Use in Adult General Education



As I wished to have teachers reflect on their use of digital technologies for teaching and learning both pre-COVID and during COVID, I had each participant complete the Socratic Wheel exercise twice: once in interview one and again in interview two, modifying the phrasing slightly for each point in time. During the interviews, I displayed the Socratic Wheels on my screen using PowerPoint and asked participants to rate each item around the wheel on a scale of one to ten. Answers closer to the middle of the circle (ex. 1) indicate low agreement with the

statement, while answers farther away from the middle of the circle indicate high agreement (ex. 9). I placed colourful dots on the wheel according to their responses and then linked the dots together to create visualizations of each individual's use of digital technologies before and during COVID.

Data Analysis

Interview Data

To analyze the data obtained from interviews one and two, I used the cross-case synthesis technique. This technique involves first analyzing each case before comparing these case findings to one another to identify cross-case patterns (Yin, 2009; Creswell, 2007). Here are the detailed steps I took to conduct this analysis:

- Once I finished transcribing each participant's first two interviews, I loaded the transcripts into Dedoose, a digital qualitative analysis tool. I then developed initial codes based on my interview questions. Though Lichtman (2010) proposes moving from codes, to categories, and finally to themes in the analysis process, I preferred to group the codes by chronological theme early in the analysis process. This helped me differentiate between the use of digital technologies pre-COVID and during COVID.
- Next, I read through each teacher's transcripts one at a time, starting with their pre-COVID experience and then moving on to their during-COVID experience. As I read through the transcripts, I coded them in Dedoose using the initial list of codes, which evolved over time. See Appendix #6 for the final list of codes. During each readthrough, I also took notes to help me develop each teacher's individual case description.

- Once I had coded and taken notes on all the transcripts and developed the case descriptions, I then reviewed all the data to look for cross-case patterns. This led to a reorganization of previous codes, with patterns emerging based on similarity and frequency of responses. See Appendix #7 for the patterns that emerged.

Socratic Wheel Data

After conducting within-case and cross-case analyses of the interview data, I repeated this process for the Socratic Wheel data. Here are the steps I took to accomplish this:

- I first placed each participant's two wheels – pre-COVID and during COVID – on top of one another to see the changes in their responses over time and identify which elements had shifted the most. I compared these with the results from the within-case interview analysis.
- I then added each participant's two sets of Socratic Wheel data into an Excel sheet and calculated the averages of all responses both pre-COVID and during COVID. This allowed me to generate a new Socratic Wheel representing everyone's collective changes in digital technology use and to identify the three elements that had changed the most for all participants as compared to pre-COVID.

Addressing Researcher Bias and Validating Findings

Kincheloe (2012) reminds us that value-free research does not exist. It is therefore crucial for researchers to adopt a position of critical subjectivity, "a quality of awareness in which we do not suppress our primary experience; nor do we allow ourselves to be swept away and overwhelmed by it; rather we raise it to consciousness and use it as part of the inquiry process" (Maxwell, 1996, p. 12). My role in this project is that of both researcher and community member.

- I was born in Montreal, speak English as my first language, and received an English-language education.
- I earned a Bachelor of Education from Bishop's University in 2014 where I took one course on integrating technology in the classroom.
- I worked in a small Adult General Education centre on the south shore of Montreal for almost five years teaching a variety of subjects (multi-level, individualized and whole-class). I did not receive a great deal of formal professional development related to the use of digital technologies for teaching and learning during that time, although I did experiment with using various tools in a classroom context and creating my own digital resources.
- I began my Master's in Educational Technology at Concordia in 2016 in the hopes of one day becoming a pedagogical consultant to support adult education teachers.
- I currently work as a RÉCIT consultant for the Anglophone community in the Adult General Education network, helping teachers integrate technology in their teaching practice. My team and I gave workshops to many adult education teachers during the switch to emergency remote teaching in the spring of 2020 and also worked with our partners to put in place opportunities for teachers to connect virtually in the 2020–2021 school year.

All of the above factors shape how I interpret the research problem and many of them impact how the participants viewed and continue to view me (Lichtman, 2010). Prior to the start of the data collection process, I examined my own biases by writing an identity memo, defined by Butler-Kisber (2010) as "short, concise statements addressing the questions of 'who I am, the beliefs I have that might impact on the work, and how I will account for my beliefs and

assumptions during my study'" (p. 19). I also put myself in the place of my participants and reflected on my own use of digital technologies as a teacher by answering the questions for interview #1 and the Socratic Wheel. These exercises helped bring to mind all the emotions that can be associated with teaching and the use of digital technologies for teaching and learning. They also helped me to consider my position as an RÉCIT consultant who worked from home during the pandemic and who did not have to endure the stresses of teaching during COVID.

Ultimately, I believe that my membership in the community is a benefit to the study both in terms of my relationship with participants and the analysis of the data. I was familiar with the AGE context, both its joys and its challenges, from the beginning and I knew and was known by many of the participants, meaning that we started out with a certain level of trust and respect. After our second set of interviews, several teachers let me know how grateful they were to have had an opportunity to take a step back and reflect on everything that they had experienced since the start of the pandemic. I consider this to be a mark of meaningful research.

In addition to examining my own biases, I took other measures to ensure the credibility of this study's findings. First, I used three tiers of triangulation: multiple participants in different settings, multiple forms of data – the interviews, the Socratic Wheels, and government reports – and multiple points in time (Creswell, 2007). This allowed for an in-depth understanding of the research problem. Second, I used member-checking to ensure the accuracy of the findings (Plano Clark & Creswell, 2015). I sent every teacher digital copies of their interview transcripts and Socratic Wheels, as well as a summary of the initial research findings, prior to the third interview. Participants also had the opportunity to give feedback on these initial findings during the third interview. Third, I endeavoured to use "rich, thick descriptions" and plenty of

participant quotes in the chapter on findings to give readers the opportunity to transfer the results to other contexts with similar characteristics (Creswell, 2007, p. 209).

Chapter 4: Findings

This chapter is divided into two sections. The first consists of eight case descriptions, one for each participant, detailing their use of digital technologies for teaching and learning pre-COVID and during COVID. The second section features the results of the cross-case analysis, highlighting the patterns found when comparing cases.

Case Descriptions

I have organized this section by first sharing the cases of teachers who taught using a hybrid instructional model, followed by those who taught online. Cases are presented in ascending order of teaching experience.

Mélanie

Mélanie was in her second year of teaching when we spoke. She worked at an adult education centre in an urban neighbourhood. Though she found multi-level individualized teaching to be challenging, she loved that she could connect differently with adult students than with younger learners.

Mélanie was part of a special information and communications technology (ICT) cohort in university, where she learned about the interactive use of SMART Boards and other programs. "I was almost born with technology," she joked, adding that she is used to playing around with new tools until she figures them out. As a new teacher, she had not had much of a chance to experience digital technology related professional development at work pre-COVID.

At her centre, she had access to a cart with many laptops and was able to book a computer lab two hours per week. "When people were in class, we didn't need as much technology, and people didn't need to use it often either because we had the SOFAD [work]books," Mélanie explained. Her advanced students used the computers for listening

exercises posted to the Edmodo learning management platform but were not very open to doing activities that they perceived to be "extra." Her beginner students were often older and were not very familiar with technology, so she used simple websites like Mentimeter, for polls, Kahoot, for quizzes, and Padlet, for discussions, to engage students in class activities.

She recalled that it was hard to get in touch with students after the shutdown as they did not use their school email accounts. She felt frustrated that teachers and school staff were not given advance notice to prepare when the provincial government announced new safety measures requiring shifts in instruction. In the new school year, her centre adopted a simultaneous hybrid teaching model. Students were asked to indicate their attendance as 'in-person' or 'online' using a booking system. They also put in place a weekly technology orientation for new students, which included a technology survey so teachers had a better idea of what devices students had at home and how comfortable they felt using them. This survey revealed that many of the beginner students did not have access to computers and primarily relied on their cell phones for learning.

Though there was also lots of professional development offered for teachers, Mélanie said she "did not feel stable enough in [her] teaching position" to take part in them at the time. Her board supported both Microsoft and Google tools, which meant teachers could choose the tools they preferred, but this caused confusion for some students who would mix up their two email accounts. Mélanie worked closely with a co-teacher to put all their supplemental learning resources onto the Teams platform. They also created a test class to make sure everything worked from a student's perspective. She used Flipgrid, a video discussion platform, for oral competency development, but her favourite pandemic discovery was the use of Microsoft Forms for automatic grading. She said that the pandemic has completely changed her teaching practice:

> I don't do anything that I was doing before, which is crazy… I mean, 95% of the time, students were working in their books, and for more like exercises, we were just printing things some from Word. *Ça m'a jamais passé par la tête de dire, "Ah, j'vais utilisé Forms pour faire un questionnaire avec mes élèves.*" No, I would give them a piece of paper. So yeah, everything changed. Now it's easier and it's more accessible for everyone. If I'm creating new material especially, I'll do it from the basis online and [think about] how my students are going to access the material and how I would like it to be shown to me if I was in their shoes. Because paper is boring, when you think about it.

Mélanie mentioned that she also appreciated being able to connect with colleagues at their sister centre further away via videoconferencing, allowing for easier collaboration and communication.

Though technology offered new opportunities for the educational sector during the pandemic, Mélanie was clear that hybrid teaching was not ideal: "It's nice to have either everyone on Zoom or everyone in class; both is just crazy. It's like you're doing the work *en double*." With multiple teachers on video conference at once, the Wi-Fi was not strong enough to support everyone and teachers needed wired connections. She said it was also hard to figure out where to place the webcam so online students could see their teacher as they moved around the room. Still, it was difficult for both groups to hear one another and participate in shared learning.

She said that she will keep using Teams with her students and coworkers, but was clear that there needs to be a purpose behind it: "You need to work smarter, not harder. *Si tu passes plus de temps à créer du matériel et que ça change pas rien*, don't do it."

Stella

Stella had been teaching for six years. Her centre was located in a rural neighbourhood. She knew firsthand how many adult education students lack strong support systems at home, so she aimed to build open and genuine connections with those in her classroom. She loved seeing them change their minds about themselves and their abilities when they finally achieved success.

PowerPoint slides were the most interactive thing she saw as a student-teacher at McGill University. When she began teaching in adult education, she had a SMART Board in her new classroom but had no idea what to do with it. The workshops she attended on the interactive use of SMART Boards were not helpful. She remembered thinking, "If I was teaching math, I would use this 100%, but I don't see how it's applicable to English because […] they showed us how to make shapes." She gradually become more comfortable with the SMART Board as she forced herself to start using it to write notes during class discussions.

Before COVID, Stella had access to a laptop cart to use in her classroom, but there were not enough devices for each student. She was shocked the first time she passed them out to her students: "I assumed, […] working with young people, that they knew more about this technology than I did but they totally didn't." Most of her students did not have internet access at home or computers, nor had they taken computer classes in high school. The time required to teach students how to use various tools meant that students' use of digital technologies in class was limited to writing documents and creating presentations. In addition, the internet connection at her centre was not strong enough to support many users at a time. It was also unreliable: "You had to cross your fingers that it was nice outside so that you could actually use the internet."

When schools shut down in March of 2020, Stella and her colleagues had trouble getting in contact with students. Despite the fact that the centre introduced a technology bootcamp

during orientation week in September of 2019, students were not using their school board email accounts. Staff members phoned each student and ended up creating a private Facebook group where they would share Zoom links. "[T]here was not a lot of learning going on," Stella recalled. Students were struggling with their mental health and the staff felt it was more important to keep in contact with them and maintain the relationship.

In the new school year, Stella's centre adopted a hybrid model with Microsoft Teams as their learning management system. Her school board purchased laptops to lend to the many students who lacked devices at home. For Stella, hybrid teaching meant that she had to support multi-subject, multi-level, individualized classes where students might show up in-person or online via videoconference. She therefore spent a great deal of time "rejigging" assignments so students could work on them independently. There were fewer "fun activities" than before. Stella broke down the content and would send students documents to read before class sessions. They would then go over them as a group before she met with students one-on-one.

Stella felt that the initial technology workshops offered by her board were "information overload" and not basic enough for her and her students' immediate needs. For example, many of her learners did not know how to join a virtual meeting or even create Word documents and save them in the cloud on OneDrive. Later on, Stella was too exhausted and computer fatigued to attend other training sessions. She still found Teams to be very complicated to use with her students but had gotten better at troubleshooting various technology issues, like students' work not appearing on documents when sent through the Teams chat, rather than emailing the IT department for help right away. However, IT help was needed when student accounts were randomly deactivated, though it sometimes took a few days before the busy technicians could respond to her requests.

Overall, Stella found hybrid teaching to be very challenging, as it meant she had to limit her time with each student: "It'd be so much easier to do online classes if I was teaching an actual [whole] class." She felt that "hybrid learning has really made us teach to an exam," and that this was a disservice to the students who needed extra support. Other factors contributed to the stress of the pandemic. In Premier Legault's press conferences, it was never clear if certain safety measures applied to adult education. In addition, social distancing protocols meant that many of her adult education students were no longer allowed to make use of school board bus transportation, causing them to drop out. Many students also continued to struggle with their mental health, using drugs and alcohol to manage their anxiety and depression. She, along with several of her colleagues, took sick leaves during the year to tend to their own mental health needs.

When looking forward post-pandemic, Stella said that she will insist on students learning computer basics from the beginning. She added that she might make use of Zoom to stay connected when students are having trouble getting to class but looks forward to being able to connect in person again. She notes that the use of technology did make it easier to differentiate for students by sending them specific resources to support their needs. She also appreciated learning how to mark using digital rubrics, as she can easily save them for future reference. Most importantly, she believed that the pandemic had "given everybody the opportunity to kind of feel okay about not being okay," to talk about it openly, and to take a step back from work when needed. In terms of future support, she hoped that more resources will be provided to help adult learners with issues related to mental health and learning loss.

Sally

Sally had 10 years of teaching experience and she taught in a suburban neighbourhood. Sally worked hard to create a safe learning environment and to meet her students where they were, as many of them had bad previous experiences with education. Seeing them succeed when they received support brought her a great deal of joy.

Sally's Bachelor of Education program was very technology heavy. Everything was done on the computer and student-teachers had access to a variety of software programs to use in their sample lessons. Once she graduated, the professional development she received at work was often geared for teachers who were not as familiar with technology and she therefore preferred to attend technology-related workshops at conferences, where she felt more challenged. When implementing new tools, she frequently turned to Google and YouTube for help.

Though Sally felt very comfortable with technology pre-COVID, this was not always the case with her students. Some lacked familiarity with computers and struggled with basic skills like typing. When using technology with her students, she made sure to have discussions about why each tool was being used. For her, it was important that students have choice in how they wanted to access their learning:

> I do feel tech gives an opportunity to teach to different learning styles. You can do it without tech for sure, but it's so much more time consuming. […] And then when I realized, going through all the students' learning styles, that I could give them all the same information in different ways at the same time, it completely changed the way I taught, which is good.

Sally would post slides, readings, and videos on her class website for students who wanted to learn independently, while she coached other students who wanted more support. She also used Edmodo and Google Classroom for discussion questions.

When the pandemic caused schools to close, Sally made herself available to meet with students one-on-one, but there was little structured learning happening. In the new school year, her centre adopted a rotating hybrid learning schedule, with a dozen individualized students in-class and a dozen more joining online at the same time. Her centre provided her with a laptop and an earpiece, but Sally also found it necessary to purchase some thrifted computer mice and headphones as well as a speaker so that her two groups of students could hear one another. Students who did not have computers at home were provided with Chromebooks, but this caused some complications as her centre primarily used Microsoft tools. Other students who lacked internet access at home and were unable to access school bus transportation did not return to school.

During her classes, students did activities in their workbooks and recorded their progress in ClassNotebook, Microsoft's digital notebook software. Sally organized mini workshops based on student needs, where students would engage in collaborative group activities using ClassNotebook. She also made extensive use of Forms for student check-ins and formative assessment. Still, hybrid teaching was not easy:

> At the beginning [it] was actually quite stressful [doing hybrid teaching] because there was so much going on at once before I was really organized. I felt the quality of my communication and individual teaching go down because there were too many things happening at once. Sometimes I felt like I was like floating outside my body, just watching myself type a thousand things.

It was a struggle for Sally to give attention to her online and in-person students at the same time, with constant interruptions due to notifications and technical issues. Setting up a meeting to connect with students online was more difficult and time consuming than in-person. She also found it harder to provide enough support to her students with exceptionalities, who struggled with time management and needed more one-on-one help.

In addition to the struggles of teaching, it was frustrating for her, her students, and her colleagues to have to adapt to changing government directives. This led to some conflict when alternative viewpoints on safety regulations collided. Moreover, Sally found it emotionally taxing to watch her students struggle with their mental health as community resources were overloaded with demand. She highlighted that community building, mental health support, and support for students with academic difficulties should be a priority for 2021–2022.

Despite the many challenges of hybrid teaching, Sally recognized that the model was beneficial to working students or students who lived a significant distance away from school. She said she would therefore be open to offering a hybrid option to student on an as-needed basis. For her part, she liked having all her resources be organized and accessible for her students, though she would like to shift back to using Google Classroom in the future. "I do enjoy learning new ways and I'm excited to amalgamate these new things with some of the old things," she said.

Harry

Harry had over 35 years of teaching experience and worked in an urban neighbourhood. He considered adult education an "easy clientele to work with," finding most students to be more mature and motivated to get things done. Though many of his students had learning difficulties, he was patient in figuring out what worked for them to help them reach their goals.

Most of the professional development Harry attended pre-COVID had to do with the curriculum renewal in adult education. Despite this, Harry felt comfortable using technology, troubleshooting issues, and picking things up on his own. His school board "jumped on the computerized and the connectivity wagon early," equipping his classroom with over 20 computers and giving students Wi-Fi access. This was certainly helpful for his individualized classes, but the technology itself was the medium and not the focus:

> I would put [digital technology] fairly low in terms of how important it is for learning and for teaching because I don't think the learning and the teaching happens, in my mind, really through technology. It happens with the material. For me the technology is essentially the tool to get the information.

Harry used the digital resources that accompanied the student workbooks and created lots of digital material for his students. His students were used to writing their assignments in Word and emailing him for feedback. They also recorded themselves while practicing for oral presentations, reviewing their videos to improve their performance.

Once COVID arrived and classes shut down, it was a scramble for Harry and his colleagues to contact their students once the go ahead was given to continue learning at home, as learners did not use their school emails. Academically, "there's no question that *le ballon a dégonflé*," said Harry. "A lot of students just click over, you know, but a lot didn't adapt right away." His centre adopted a simultaneous hybrid model for the 2020–2021 school year, but "it didn't bother [him]" much or radically change his practice as an individualized teacher. He put all of his material on Teams for his students to access independently and communicated with his online learners using the chat function. The local youth sector RÉCIT consultant was available for support with using Teams, and he also turned to his younger colleagues for help when

needed. With all staff members using the same platform, it was easier to communicate than before.

Students could choose if they wished to attend class in-person or online. Students who did not have computers at home were provided with Chromebooks from the centre. Navigating the platform and file management were tricky for some learners, but "student motivation was the biggest obstacle in [the] virtual context." Attendance and retention rates were down as students suffered from isolation and disconnection.

> It's […] even more of a challenge to simulate someone who's at home, maybe not doing anything except having logged on to the class, you know. In a class you've got them in front of you. You can come at the student in many different ways when you got them in the class.

Despite this, Harry believed that it was beneficial for students and teachers to have become more "technologically functional" and for learning resources to be organized and made accessible online. This shift helped him rethink how he designs his material:

> I'm now writing up a module [and] it's questions and links. You know, that's what we do now. You don't write a big module with long explanatory paragraphs with synthesized knowledge. You ask questions and, [say] "go find it." I like that part of it. It's an adult approach. "You figure this out. Get your answer."

The pandemic also highlighted that in-person learning is "precious" for adult learners who need more support: "It certainly made me realize the importance of that ambience thing that we do. We don't think about it, but when you can't have it you notice that you miss it." Moving forward, Harry hoped that there would be more opportunities for teachers to connect with and support one another in subject-specific virtual meet ups or at in-person workshops.

Tatiana

Tatiana had been teaching for eight years at a centre in a suburban neighbourhood. She appreciated how much she learns from her adult students but wished that there were more resources to support those struggling with learning differences. She worked hard to stay student-focused and flexible in her teaching to help meet their needs.

Pre-COVID, Tatiana had access to Chromebooks for use in the classroom. She made use of several free websites that offered differentiated activities for students to develop their language skills, and she often had students engage in collaborative activities using Google Docs and Slides. She also used her SMART Board for interactive activities where students would respond using their Chromebooks. She noted that her ability to troubleshoot technological issues was higher before the pandemic, because she was "doing very simple things with technology." The students in Tatiana's pre-secondary classes, who were often older, had little experience with using technology and it took time for them to get comfortable with new tools with her support. Student accounts were not created automatically, meaning that there was sometimes a delay between a student entering her class and being able to use the Chromebooks.

Tatiana took a course on online learning during her Master's degree and learned about hyperdocs, digital learning documents containing hyperlinks, but she felt that "it seemed like there was no place for that in adult education at that time because we were in person." She received training on Google Apps for Education and Google Classroom at her school board, but again this was not suited to her immediate needs. Her preference for professional development is teacher vetted recommendations: "I'm not somebody who spends a whole lot of time like researching the newest, latest things in ed tech but I'm lucky that I have colleagues who do.

They'll often [say] 'oh, you should try this' and I'll be like 'Great, thanks! That's wonderful. I'm using it forever now.'"

When the pandemic was declared in the spring of 2020, she said there was lots of back and forth in terms of the expectations at her centre for online instruction. This flip-flopping was mirrored in the government safety measures that came into force in the 2020–2021 school year. Her centre adopted a hybrid schedule for the fall, where half the students were present for in-person learning while the other half learned asynchronously online. In the winter, she was able work from home and teach 100% online, which she preferred. At the beginning of the pandemic, her local pedagogical consultant used Google Classroom to share resources to support teachers with online learning. Tatiana also benefitted from personalized help from a colleague who was released from their regular teaching role to provide technological support.

In her online class, Tatiana created lots of opportunities for students to interact with each other and with the content to build their language skills. Students engaged in class discussions using Google Slides, created collaborative annotation of texts in Google Docs, and joined breakout rooms to practice different reading strategies. She also regularly checked for understanding using Google Forms. She reflected that "online teaching didn't radically change my goals." She still knew how to teach; she just had to do it differently. Some of her students did experience "a bit of tech anxiety" at first, but one-on-one how-to sessions helped students feel ready for learning. Tatiana preferred being online to being in-person with masks, where collaborative work was discouraged for safety reasons, but she noted that it was difficult to engage all her students in this context. This being said, she noticed that attendance and retention rates in her online classes were higher than those pre-pandemic. Based on feedback from her students and the struggles they were experiencing, she did her best to focus on communicating

clearly with students, helping students feel connected, and checking in frequently to help them stay concentrated.

For Tatiana, "a surprising blessing of COVID is that it actually forced us to use the technology at our disposal." She thought of it as "a positive push to shake up our teaching and to also make it more like 21st century friendly." For example, she noted that Google Classroom was especially helpful for students who struggle with executive functioning and that being online made giving immediate formative assessment easier. Having everything housed online also made things simpler for her in terms of planning: "When I prep, it's just a series of clicks. I feel like that's also allowed me to be a little bit more creative, too."

When reflecting on a return to in-person teaching, Tatiana wanted to implement a 'Bring Your Own Device' class policy, as she planned to continue using Google Classroom for students to access materials and submit work. In addition, she greatly appreciated the culture of digital resource sharing between colleagues during the pandemic: "That's really valuable for the teacher but also for the students; they end up getting like the best version of the course based on best practices." She hoped that this practice would become more widespread, including sharing across school boards.

Claire

Claire taught in a suburban centre and had 15 years of experience. Teaching multi-level individualized classes required a great deal of organization and flexibility, but helping students make progress and achieve their goals were a joy for her. Still, she wished that the educational system provided more support for adult learners, as she often felt like there "not enough of [her] to go around."

Claire did not consider herself to be a "techie" but she felt comfortable with most digital educational tools and was usually able to figure them out on her own or with help from the RÉCIT. She was always looking for new professional development opportunities, but highlighted that time is her biggest struggle:

> Whatever comes along, if I see value in it, I can usually incorporate it if I have the time – sometimes it's just that you don't have the time – but it has nothing to do with not being comfortable with it.

Pre-COVID, she made frequent use of the Google suite with her students, digitizing her learning activities and posting them on a class website or Google Classroom for her students to access. Claire noted that this creation of digital resources took a great deal of time and required a lot of thought to adapt for independent student use. A limited number of devices meant that class Chromebooks needed to be shared. In addition, her students usually had a wide range of skill levels, and continuous intake meant she often had to repeat any technology orientation sessions she provided or revert to paper copies. However, it was important to Claire that her students be "immersed in real life," learning to use and troubleshoot new technologies, just as they would need to do after graduating.

In the spring of 2020, she was frustrated with the lack of preparation done during the initial shutdown period to train teachers in online learning. "We were supposed to turn on the drop of a hat," she said. "I think there was a huge lack of consideration for what it actually means to be to be doing all of this stuff, and how much extra time it actually takes to teach online." Registrations were slow at the start of the next school year but picked up once online options were offered, which allowed Claire and her colleagues to maintain connections with students who would otherwise have dropped out.

Claire created a local computer course to introduce all students to the tools they would use for online learning. In addition, Claire was often the one giving training to other teachers: "There wasn't too much about the pedagogy part in the beginning. It was [more]: how do you use these tools, how are you going to get stuff to students, how are you going to get stuff back from students." Moodle, their chosen learning management system, acted as a "repository" for resources, though she saw the potential for growth in this area: "especially for individualized, if we can do our programs properly online, it's a whole game changer for us."

She usually started off her classes with a group activity before everyone began their independent work while she checked in with as many students as possible. These check-ins took much longer than in person, as did grading and feedback. As with before COVID, the lack of available curriculum resources for the English community meant that she and her fellow teachers were creating things from scratch, which was time consuming. Issues with internet connectivity, servers going offline, and power outages sometimes made online teaching frustrating. For beginner students in online language classes, low levels of English and technological proficiency proved challenging. Many students did not have computers at home, so the board lent out many Chromebooks.

For Claire, teaching online forced her and her colleagues to put new tools into practice and find different ways of teaching. "I think we're way further ahead than we were a year ago at this time, that's for sure. I think everyone's learned a lot." This experience also helped her grow in other ways: designing online courses "makes you think about the curriculum more because you have to plan it so well and you have to have your goals," she added. Post-pandemic, her board planned to continue with their use of Moodle and with their new computer course. Claire hoped that more opportunities would be provided for teachers to develop and share resources. In

addition, she wanted more professional development specific to adult education teachers offering individualized instruction.

Sapna

Sapna worked in an urban centre and had 21 years of teaching experience. The adult education clientele was close to her heart, as her parents immigrated to Canada many years ago. She wished there was more support available to adult students with difficulties, especially for those who had been forced to flee their homes as refugees.

Sapna originally trained as an engineer and therefore felt comfortable learning how to use new technologies. When it came to the classroom, however, she needed to be convinced of their purpose:

> I'm automatically suspicious of technology. I really have to see the value-added. You would have to prove to me that there was value added, pre-pandemic, because at that time it was not a necessity, it was an add-on. It was a bonus. Tell me how I should be incorporating it the classroom and how that's going to actually make a difference in pedagogy or learner outcomes.

As such, she typically avoided technology workshops when they were offered, adding that:

> I'm the kind of personality where I feel very overwhelmed because technology is such a vast field and there's so many things … [W]hen other teachers recommend something to me then I'm more open to learning, but it's not that I'm going out seeking these learning opportunities myself.

In her classroom, Sapna regularly used her SMART Board to display content and activities. All resources were posted to Google Classroom. She also had access to a computer lab

once a week and her students enjoyed working on listening and pronunciation exercises at their own pace. Though she would have liked for her students to practice writing emails on the computer, the writing component on final exams required pen and paper and limited her choices.

The delay between the COVID shutdown and the continuation of learning in the spring of 2020 was frustrating for Sapna. She reached out to her students early to see how they were faring and pushed hard for training from her board. When training did come, it proved disappointing:

> It was just like being hit by a bus of information… It was too much, in too compressed a time, too many people, too many questions. We didn't really have the time to process, so I found those increasingly useless, and I gave them up.

In the 2020–2021 school year, her centre adopted a hybrid model with smaller class sizes, where 50% of class time was spent in-person and the other 50% was spent online. This lasted until the curfew was imposed in January, at which point night classes were moved completely online. Unfortunately, her internet connection at home could not support Teams videoconferencing, meaning that all videos had to be turned off. She relied on chat and audio to communicate with her students, as there were no reactions functions in Teams at that point. This made it difficult to build connections with her learners, some of whom were frustrated by the technical difficulties. The Teams platform was also tricky for her beginner language learners to navigate.

Sapna's online classes featured more teacher-talk and grammar activities than before. She usually stuck to whole-class instruction, as it was harder to be aware of what her students were doing in breakout rooms and because they often switched back to using their first language rather than practicing their English. Students worked to develop their listening, speaking, and writing skills online, but Sapna mentioned that her learners preferred using photocopies for reading

exercises rather than reading on a screen. When correcting student work, she experimented with the track changes feature on Word, but this was too complicated for her students, so she purchased a tablet and stylus in order to correct their work by hand.

Though she was able to benefit from the help of a tutor to co-teach a few times a week, the online teaching experience was very emotionally taxing for Sapna:

> I lost total confidence in my classroom management. In terms of curriculum delivery, I was always feeling like I was always falling short. I felt it was overwhelming to figure out new and creative ways to deliver the curriculum, and at a certain point I just couldn't. […] It was too late in the game to start learning new tricks. But by the time I got to the spring, I was desperate for th[e] year to be over... At that point, I was in sheer survival mode.

Working from home also affected her mental and physical health. The closure of gyms eliminated exercise as an outlet and the boundaries between work and home life blurred as she spent long hours sitting in front of her computer.

Though Sapna hoped to never have to teach online again, she said that she would continue to use a learning management system to share materials and communicate with her students, though she wanted switch back to Google Classroom. She also had a few suggestions for improving the experience for other educators, including the practice of co-teaching to lighten the burden of synchronous online classes. She further recommended that IT support be available via email and phone for both teachers and students at all times that classes are offered. Most importantly, she advised that teachers reach out to their colleagues so they could support – and, if necessary, commiserate with – one another.

Viviane

Viviane had been teaching for 25 years, most recently in adult education in a suburban neighbourhood. Though she was always looking for ways to improve her teaching practice, she knew that positive relationships are the key to learning. She loved working with adult students as they are in a position to make real changes in their lives, but she found it frustrating that higher education institutions often take adult education diplomas less seriously than those of the youth sector.

Computer technology was not a part of Viviane's original teacher training, but since then she attended many specialized workshops on using digital technologies in math classrooms and made frequent use of the personalized coaching offered by RÉCIT consultants. She was also an avid Twitter user and enjoyed connecting with other educators online. Viviane stressed that there had to be a point to using technology in her teaching: "To me, when I think of digital ed tools the students have to be mobilized, and […] the digital tool makes the learning, somehow, enhanced or improves the learning."

Pre-COVID, she used her SMART Board mainly as a projector to share learning targets and lesson structures but loved to have her students make their learning visible by writing on her tables and windows with erasable markers. Though she considered her troubleshooting skills to be basic – "turn it off, turn it on again" – Viviane implemented various math tools in class, with students using school iPads or their own cell phones. Learners helped each other if they ran into problems. Each student was also expected to keep a digital portfolio using the FreshGrade application, where they posted daily reflections on their learning, and she frequently communicated with students through WhatsApp. Viviane highlighted that using the iPads for learning was sometimes difficult as she needed permission to download apps, which occasionally

involved a cost and took time to secure. There was also no one in charge keeping the iPads up to date. For this reason, she often used web versions of her preferred tools even if they had apps available.

Fortunately, Viviane did not experience much of a disruption when COVID shut down schools in March of 2020, as she was piloting an online course using Moodle. She brought equipment home, set up an office in her basement, and happily gave up her commute. She was, however, very concerned for her students as they lost their jobs, struggled to feed their children, and worried about their family members living in other hard-hit countries. During her summer vacation, she spent time on her phone learning about teaching online to help prepare herself for the next school year. Though she preferred learning on her own or having coaching to learning in groups, she said this self-directed learning "create[d] the feeling of being overwhelmed" and that it was easy to get distracted by the bright and colourful and lose sight of the main goal: learning. Still, she felt lucky that the pandemic hit when she was in her 24th year of teaching, when she already had a strong foundation.

When school started up again, Viviane said that she felt safe, but it was clear that everyone's stress levels were high. She did not appreciate that teachers received information along with the general public, as it made it hard to answer students' questions about new measures. Viviane taught some subjects in-person and found it difficult to adapt to having students stay seated in rows all the time. When teaching her online classes, she found it harder to form relationships with her online students and for them to form relationships with each other. Viviane used silent discussions for warm-up activities and used collaborative whiteboards for demonstrations. She made her own videos and interactive content and provided opportunities for students to contribute resources they had found to the class. She quickly learned the importance

of discussing behavioural expectations and giving clear instructions when using breakout rooms, and of having many backup plans to deal with technological issues: "When we're teaching, we always have a plan B. But when you're teaching online, you better be up to B-C-D-E-F. [You need to] have other solutions because it's not always going to work the way you intended." Many of her students did not have access to high-speed internet or enough devices for all family members who needed one for learning. Some students joined class using their cell phones or from public spaces. This made Viviane very conscious of looking at new tools from the learner's perspective and gave her lots of food for thought for designing flexible learning experiences that all her learners could participate in. Her students appreciated her online classes, because it was easier for them to balance their school, work, and family responsibilities and do asynchronous activities when it was convenient for them.

Viviane reflected that the pandemic gave her the opportunity to learn new ways to help engage with their learning and to try new tools that she already knew about but had not experimented with. "My philosophy did not change," she said. "Who I am as a teacher did not change. The tool changed." She noted that she stayed close to her comfort zone because she found tools that mimicked what she was already good at. She also hoped there would be future opportunities for teachers to come together and discuss how to create relationships and build community in online classes. She planned to continue using Moodle, so that her students would be able to unlock new assignments as they progressed through their learning, and WhatsApp, for communication.

Cross-Case Analysis

This section is organized according to four main themes: teaching stories, pre-COVID experience, during COVID experience, and looking forward.

Teaching Stories

I began each first interview by asking participants the joys and challenges of being an adult education teacher and what strengths they bring to their role as educators. All teachers expressed that they enjoyed working with adult students, who bring lots of life experience to the classroom and whom teachers can engage with on a different level than with younger students. Teachers also cherished opportunities to see their students succeed as they came back to school, persevered to achieve their goals, and changed their minds about their abilities. However, six out of eight teachers mentioned challenges relating to meeting the needs of students who have learning differences – diagnosed or not – or who have experienced trauma, and the insufficient resources available to support these students. Tatiana, Harry, and Mélanie also highlighted the changing student demographics in adult education, resulting in younger students who are sometimes less motivated to pursue their education. Claire and Mélanie commented on challenges relating to the complexities of individualized multi-level instruction.

Teachers' strengths mainly revolved around three concepts: relationships, organization, and flexibility. Six teachers' responses included words such as: connection, personability, welcoming, safety, open-minded, genuine, honesty, empathy, respect, and patience. This speaks to teachers' dedication to their students as people, not just as learners. Viviane, Claire, and Sapna spoke about organization as one of their strengths. This skill is especially necessary for individualized multi-level – and sometimes multi-subject – teachers, who need to keep track of each student's progress in their learning. Finally, Claire, Tatiana, and Viviane stressed the importance of being flexible in terms of taking on new courses or multi-level teaching and adapting to student needs.

Pre-COVID

This analysis of adult education teachers' use of digital technologies pre-pandemic is divided into three subsections: professional development, technology use in learning, and barriers or obstacles to technology use in classrooms.

Professional Development. Both Sally and Mélanie reported receiving technology training during their Bachelor of Education programs. Most teachers, however, only received such training when they were in-service. After comparing teachers' experiences, it became clear that in-service professional development workshops on digital technologies fell short of teachers' needs for a variety of reasons similar to those described in Rasmy and Karsenti (2016) and Karsenti (2016). Mandatory workshops were often geared to teachers who were not very comfortable with technology, which frustrated more digitally competent teachers who were not challenged enough. In addition, these workshops often failed to provide diverse examples of contextualized subject-specific use of digital tools. In some cases, teachers did not perceive the specific technology under consideration to be worth their while from a pedagogical standpoint. When technology workshops were optional, some teachers chose not to attend them in favour of attending workshops more relevant to their immediate needs, for example in relation to the curriculum renewal in adult education.

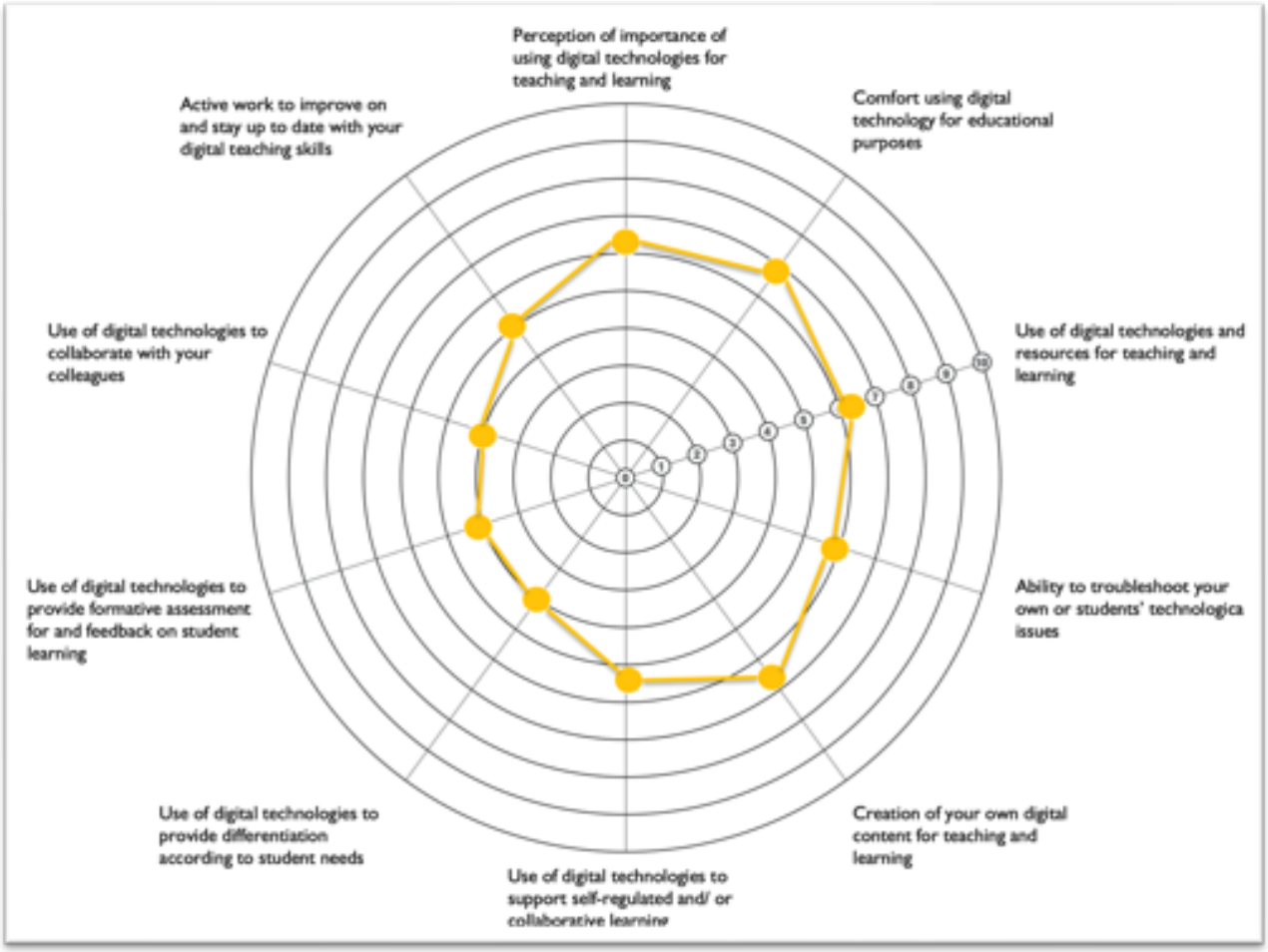
More often though, teachers' responses highlighted their preference for choice in their learning so that they could select an option that was meaningful and useful for them in terms of content or format. Claire, Sally, and Viviane expressed appreciation for specialized workshops or conferences they attended of their own accord. Viviane and Claire often reached out to RÉCIT consultants for one-on-one personalized support. Tatiana and Sapna preferred to let the learning come to them through vetted digital tool recommendations from their colleagues. Of the group,

Viviane was the only one who mentioned having a digital professional learning network. Unlike in Rasmy and Karsenti (2016), no teachers spoke about communities of practice as being a preferred type of professional development. This is likely due to the fact that these types of communities typically work best in subject-specific groups, which are not usually possible in small adult education centres.

Technology Use for Teaching and Learning. The participants' use of digital technologies for teaching and learning pre-pandemic is summarized in Figure 11. This Socratic Wheel depicts the average responses of all eight teachers.

Figure 11

Teachers' Use of Digital Technologies Pre-COVID



Pre-COVID, teachers' responses indicated that that their most common use of technology involved preparing slides and documents using basic office suite software – like Microsoft Word and PowerPoint or Google Docs and Slides – which they displayed in class using their SMART Boards or printed for their students. This is consistent with the findings of Stockless, Villeneuve, and Beaupré (2018) and Karsenti (2016). Five teachers mentioned posting these resources to a learning management system or class website so their students could access them digitally. Only Sally and Stella explicitly commented on the use of videos in their instruction, though this practice was likely more widespread than indicated.

Technology use by students was varied. Five teachers said their students used basic office suite software to complete written assignments and/or create presentations. Five teachers also used various digital tools to facilitate class discussions by using polling software – such as Google Forms or Mentimeter – or by posting questions in their learning management system. Tatiana, Sapna, and Mélanie often provided opportunities for their students to practice their language skills with levelled exercises from various websites. Other technology uses by students included: recording videos as practice for oral presentations, participating in Kahoot quizzes to check for understanding, using specialized math apps for graphing, and reflecting on learning through a digital portfolio.

Overall, teachers reported that their students had mixed reactions to using technology for learning. Some students enjoyed the experience, as it allowed them to move at their own pace or learn a new skill, while others found it frustrating as they lacked the necessary competency and familiarity to use technological devices with ease. Alternatively, some students viewed the use of technology as an addition to their workload or as not realistic to what they would face in an exam setting.

Some teachers were not very comfortable troubleshooting technological issues, resorting to turning devices off and then on again or consulting IT, colleagues, or their students for assistance. Others were very comfortable with conducting Google Searches or watching YouTube videos when confronted with issues, and 'messing around' with new tools until they figured them out. Viviane noted that her students often helped their peers with troubleshooting.

Barriers and Obstacles to the Use of Digital Technologies. When asked about barriers or obstacles to technology use in their classrooms, teachers' responses centered around three main areas: institutional barriers, students' computer skills, and issues related to teaching.

In terms of institutional barriers, five out of eight teachers mentioned a lack of technological devices for student use. Some teachers had access to computer labs for a limited time each week, while others had laptop, iPad, or Chromebook carts available, but there were not enough for each student, or these carts were shared with other teachers. Teachers noted that the majority of their students had access to smartphones and that they sometimes used these in class. Two teachers brought up issues relating to student accounts: Viviane's students did not have their own school board email accounts, while in Tatiana's case the process to create them was long and not automatic. Finally, Stella had issues with internet connectivity at her rural school, as the bandwidth was low and the connection was unreliable. These institutional barriers align with those experienced by the teachers surveyed in the work of Stockless, Villeneuve, and Beaupré (2018).

When it came to using computers, five out of eight teachers highlighted that many of their students lacked basic computer skills. Some students did not have computers at home or did not have much previous exposure to computers in educational settings, and had trouble logging in, typing, or using document production or presentation software. This was especially prevalent

for students in beginner language classes. Both Claire and Stella explicitly mentioned that teaching students these types of skills meant they had less time for curriculum instruction or student support.

Lastly, a few participants remarked on barriers related to teaching. Sapna and Stella cited the continued use of handwritten exams as an unfortunate deterrent for students learning how to use document production software, especially considering curricular time constraints. In Stella's case, it was her students who protested when she introduced the use of Microsoft Word. Claire, on the other hand, spoke of a lack of available digital learning resources for the English community and the time commitment required to either create new digital resources or adapt pre-existing resources as being a barrier to the use of technology in the classroom.

During COVID

This analysis of adult education teachers' use of digital technologies during the pandemic is divided into five themes: reacting to COVID, professional development, teaching in 2020–2021, barriers and obstacles to hybrid and online instruction, and opportunities and benefits of hybrid and online instruction.

Reacting to COVID. Most participants had similar experiences during the initial shutdown from mid-March to the end of April 2020. Teachers were instructed by the Ministry of Education not to contact their students during this period, though a few teachers disregarded this directive. Once the Ministry announced that learning could continue from a distance, the majority of participants reported that they and their colleagues scrambled to reconnect with their learners as the latter were not in the habit of using their school emails. Once channels of communication were established, students mostly pursued their learning independently as their teachers checked on their progress. When case numbers began to decrease at the end of the

school year, some students were able to visit their centre to write their exams. Unlike in the youth sector, exams were not cancelled in adult education nor were teachers permitted to use their professional judgment to evaluate their learners.

Many safety measures were introduced for these exam sessions and for in-person instruction during the following school year, including reduced class sizes, physical distancing, sanitizing, and mask-wearing. Instructions were also established around managing cases and outbreaks, although – contrary to in the youth sector – it was not possible to introduce class bubbles in AGE as students follow personalized learning paths. The rules around distancing, mask-wearing, and managing cases changed over the course of the 2020–2021 school year. Though the measures somewhat reassured teachers about their safety, they also added to their stress levels as teachers strived to enforce them in their classrooms. Teachers frequently had to remind their students to keep their masks on and to wear them properly, to maintain distance from one another, and to sanitize their hands and common items they touched. In some cases, the differing levels of adherence to these measures also led to conflicts with fellow staff members.

Additionally, several teachers expressed frustration at the way the government communicated these measures, as they felt it showed a lack of respect for the hard work of educators on the front lines. Press conferences regularly took place during the day when teachers were at work and could not watch. Teachers learned about new measures at the same time as the public and were often unable to answer their students' questions, as adult education was rarely explicitly mentioned during these announcements. Shifting guidelines meant that teachers had to adapt to new directives quickly, without advance notice.

Professional Development. Adult education teachers were presented with many professional development opportunities in preparation for distance learning in the spring of 2020

and for online and hybrid teaching in the 2020–2021 school year. Synchronous training was offered by youth sector RÉCIT consultants at individual school boards as well as the RÉCIT AGE team, by local Technology Lead Teachers and pedagogical consultants in centres, and by Google and Microsoft representatives. Unfortunately, five out of eight participants expressed dissatisfaction with the workshops and support that were offered. For example:

- Claire and Sapna felt that professional development could have been offered earlier on in the initial shutdown and again prior to the return to school to give teachers more time to prepare for these shifts in delivery.
- Stella and Sapna described the workshops they attended as being "overwhelming" and too advanced for their – and their students' – immediate needs.
- Claire also highlighted that the workshops offered at her board were too generalized and not specific enough to adult education and the context of individualized teaching.

Sometimes teachers chose not to attend these sessions for other reasons. Stella mentioned that help was available before and after work but that she was too tired and computer fatigued to take part, while another preferred to learn on her own or have coaching. Only Tatiana indicated that her centre provided asynchronous training for teachers to learn at their own pace.

In addition to taking part in professional development, half of the participants reported that they trained or supported their colleagues in learning new tools, adapting to hybrid and online instruction, and troubleshooting issues. While Claire was released from part of her teaching load to provide this support, this was not the case for Sally, who did not receive release time or additional pay for these duties, which took away from her planning time.

Teaching in 2020–2021. For the 2020–2021 school year, adult education centres adopted either hybrid or online instructional models to help limit contact. Mélanie, Stella, Sally, and

Harry experienced individualized hybrid teaching, while Tatiana, Claire, Sapna, and Viviane primarily taught online classes, either individualized or whole class.

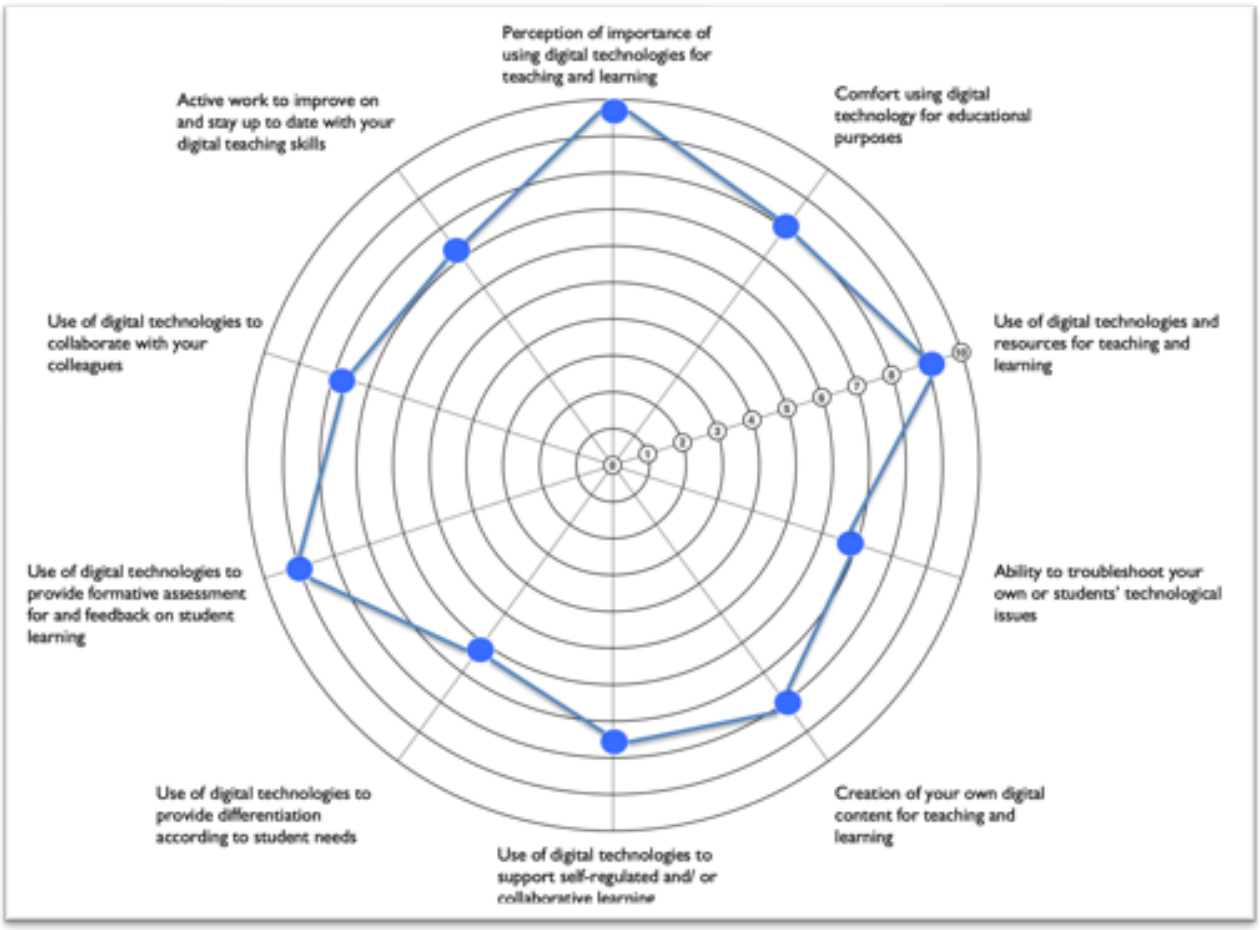
The learning activities that teachers designed for their online or hybrid classes were teacher-led, individual, or collaborative. Teacher-led instruction included lectures and demonstrations. Individual activities involved completing exercises in physical workbooks or online, watching instructional videos, reading and writing texts, responding to Forms for check-ins or checks for understanding, and engaging with interactive activities. Collaborative activities consisted of class discussions, mini-workshops, group work in breakout rooms, and group chats for peer helping.

In addition to using emails or the chat features of their learning management systems, teachers also used a variety of other methods to communicate with their students. They provided written feedback through chats or left textual, audio, or handwritten comments on students' digital work. Teachers also met with their students in breakout rooms or in one-on-one video conferences for individual support.

Figure 12 shows participants' use of digital technologies for teaching and learning during the pandemic. The changes in these results as compared to pre-pandemic will be discussed in the following chapter.

Figure 12

Teachers' Use of Digital Technologies During COVID



Barriers and Obstacles to Hybrid and Online Instruction. As I reviewed the barriers and obstacles to hybrid and online instruction, it became clear that some were explicitly technology-related while others were non-technology related.

There were many technology-related barriers to launching hybrid and online instruction during the pandemic. Predominant among these was a lack of devices, as seven out of eight participants highlighted that many students did not own computers or tablets. This barrier was also highlighted in Lotas (2021) and Zukowski et al. (2021). Harry, Claire, Stella, and Sally stated that their boards lent out devices to their learners in the 2020–2021 school year. Other slightly less prevalent obstacles included internet access and connection issues on the part of

both students and teachers, problems with student email accounts being activated and deactivated, and low levels of technological skill among students.

There were also many challenges related more directly to online and hybrid teaching, with six out of eight participants commenting on such struggles. Here are a few examples:

- Sally, Stella, and Sapna felt that rapid shift to hybrid and online instruction negatively impacted the quality of their teaching, in terms of their ability to meet curricular expectations and adequately support their learners.
- Multi-level individualized instruction meant that teachers had to support many different course codes at once and have digital learning resources available for all learners right away, rather than preparing one course at a time.
- Simultaneous individualized hybrid teaching forced teachers to pay attention to groups of in-person and online learners at the same time. This was very distracting and stressful.
- Large class sizes made it harder and more time-consuming to check-in with each learner during videoconferences. This also meant that teachers had less time to give detailed feedback on a regular basis.
- There was a lack of digital learning resources available for the English-speaking community. Creating new digital resources or adapting existing resources for independent student use was very time consuming.
- Building relationships with students online was more challenging than in an in-person environment, as students often left their cameras off during online and hybrid teaching, communicated mainly via chat and email, and participated less than when in the physical classroom.

- Teachers were less able to provide the same level of differentiated support to students with learning differences. In addition, students often did not have access to the same accessibility tools that were permitted for Ministry exams.

The most common non-technology related obstacle to hybrid and online instruction was student and staff mental health, with five out of eight participants reporting this as an issue. As in the studies by Lotas (2021), Zukowski et al. (2021), and Smythe (2021), AGE students experienced both personal and academic struggles during the pandemic, which was also extremely distressing for their teachers who felt unable to provide as much support as they could pre-pandemic. Sally and Stella mentioned a lack of bus transportation for students living in rural areas, as adult education students were barred from using school board busses due to COVID safety measures that limited seating availability. Students who were denied access to bus transportation were often unable to attend school virtually, as they also lacked high-speed internet access. Finally, Sapna and Claire commented that communication during online instruction was more difficult for students with beginner English language skills.

Opportunities and Benefits of Hybrid and Online Instruction. While the barriers and obstacles to hybrid and online instruction were best interpreted as being technology or non-technology related, I determined that the opportunities and benefits to these types of instruction were best interpreted through their advantages for teachers or for students.

Half of the participants spoke about COVID as being a learning opportunity. While they were already familiar with the basics of teaching, they gained additional knowledge and skills about how to help students learn as they were forced to try new tools and strategies to adapt to the realities of hybrid and online teaching. These new tools also had other benefits. Tatiana, Mélanie, and Harry commented that being on the same platforms within school boards made it

easier for them to communicate and share resources with other staff. They could quickly send chat messages to one another or connect via videoconference with colleagues who worked at sister centres. They could also collaborate on digital resource creation or share turn-key instructional material. One final benefit mentioned by Viviane, Tatiana, Mélanie, and Sally was the opportunity to teach from home, which eliminated their commute time and helped them achieve a better work-life balance, while also keeping them safe during a very stressful time.

In terms of benefits to students, four out of eight teachers commented on the advantages of using learning management systems. These tools helped teachers organize their learning resources and make them accessible to their students, which was especially helpful for those who struggled with executive functioning, and made it simpler for teachers to provide their students with differentiated resources suited to their needs. Furthermore, while hybrid and online instruction made it more challenging for teachers to check in with their learners individually and regularly give them detailed feedback, Mélanie, Stella, and Tatiana explained that they were able to use digital tools to either give more immediate feedback to students, using the automatic grading features in Forms, or to keep digital records of feedback they gave to students for future reference. Claire also highlighted that the use of a learning management system for in-person teaching could be a game-changer in individualized classes, as teachers would be able to spend more time working with their students one-on-one, rather than handing out new activities, reexplaining instructions, and spending time correcting work. More generally, Harry and Stella noted that hybrid and online teaching have helped their students become more technologically proficient. Lastly, Tatiana, Claire, and Viviane noticed an increase in attendance and/or retention rates, while Sally and Viviane indicated that online and hybrid instruction made it easier for students to balance their school, work, and family commitments. Though these types of

instruction did present many barriers for some students, it also presented a convenient and flexible opportunity for other adult learners to pursue their education.

Looking Forward

At the end of each second interview, I asked the participants to reflect on changes in their practice, areas for future support, and advice on technology use for other teachers.

Seven out of eight participants explicitly stated that they would continue to use their learning management system to organize and share resources with their students, though a few teachers mentioned that they wanted to switch from Microsoft Teams to Google Classroom for easier student use. When returning to in-person instruction, Tatiana and Viviane indicated that they would encourage students to bring their own digital devices to class when possible. This would increase the device-to-student ratio and make it possible for students to use technology in their learning more often. Sally and Stella also expressed interest in offering hybrid instruction to a very small number of students on a temporary, as-needed basis. This would allow them to maintain connections with students when exceptional circumstances prevented them from coming to class. Lastly, Claire emphasized that she would continue to offer an introductory computer course to all new students to ensure everyone would obtain a base level of digital competency with common tools.

In terms of the support teachers felt was needed to move forward, responses related to potential improvements for online teaching, increased resources for student support, and suggestions for resource development and professional development. Hybrid teaching was clearly very difficult for teachers as they attempted to meet the needs of both in-person and online students, often simultaneously. Teachers hoped not to experience this again. As for online teaching, the right to choose their own learning management system and video conferencing

tools, the addition of a co-teacher, and the expansion of IT support were raised as measures to enhance this type of instruction. Teachers also appreciated the opportunity to teach their online classes from home, as this often allowed for better work-life balance. Five teachers underlined that more resources were needed to support students in terms of mental health and academics. Specific suggestions included hiring more social workers and special education technicians, limiting class sizes, and planning activities to help students reconnect with their school community. Finally, recommendations for future professional development involved training developed for the particular needs of adult education teachers – rather than those of youth sector teachers – and the addition of more opportunities for teachers to meet in subject-specific groups, in person or virtually. Teachers also needed time to develop digital learning resources and a platform where such resources can easily be shared online.

Most teachers' advice for using digital educational tools centered around three points: purpose, vulnerability, and support. Viviane, Sapna, and Mélanie stressed that it is important to have a purpose for the use of digital technologies for teaching and learning. In Viviane's words, "The technology is a tool, learning is always the goal." Worthwhile technology should have a clear benefit for teachers and/or students or the potential to impact learning outcomes. Sally, Claire, and Viviane highlighted that it is perfectly acceptable to be vulnerable in front of students when implementing new tools or practices. Mistakes are inevitable, but this is an opportunity to model risk-taking and learning-in-action. Lastly, Claire and Sapna emphasized that support is available to teachers who are nervous about or struggling with using digital tools. This help can come from students, fellow teachers, or RÉCIT consultants.

Chapter 5: Discussion & Conclusion

This chapter is divided into five sections: a discussion on the findings shared in the previous chapter, implications for changes in practice, limitations of the current study, recommendations for future research, and a conclusion.

Discussion

This research used a multiple case study design to explore the experience of eight adult education teachers in Quebec's English-speaking community during the pandemic. The study aimed to answer two questions:

- How have Adult General Education teachers experienced the shifts related to the use of digital technologies during the COVID-19 pandemic?
- What disruptions have occurred in the English-speaking Adult General Education community due to COVID-19?

Shifts in the Use of Digital Technologies

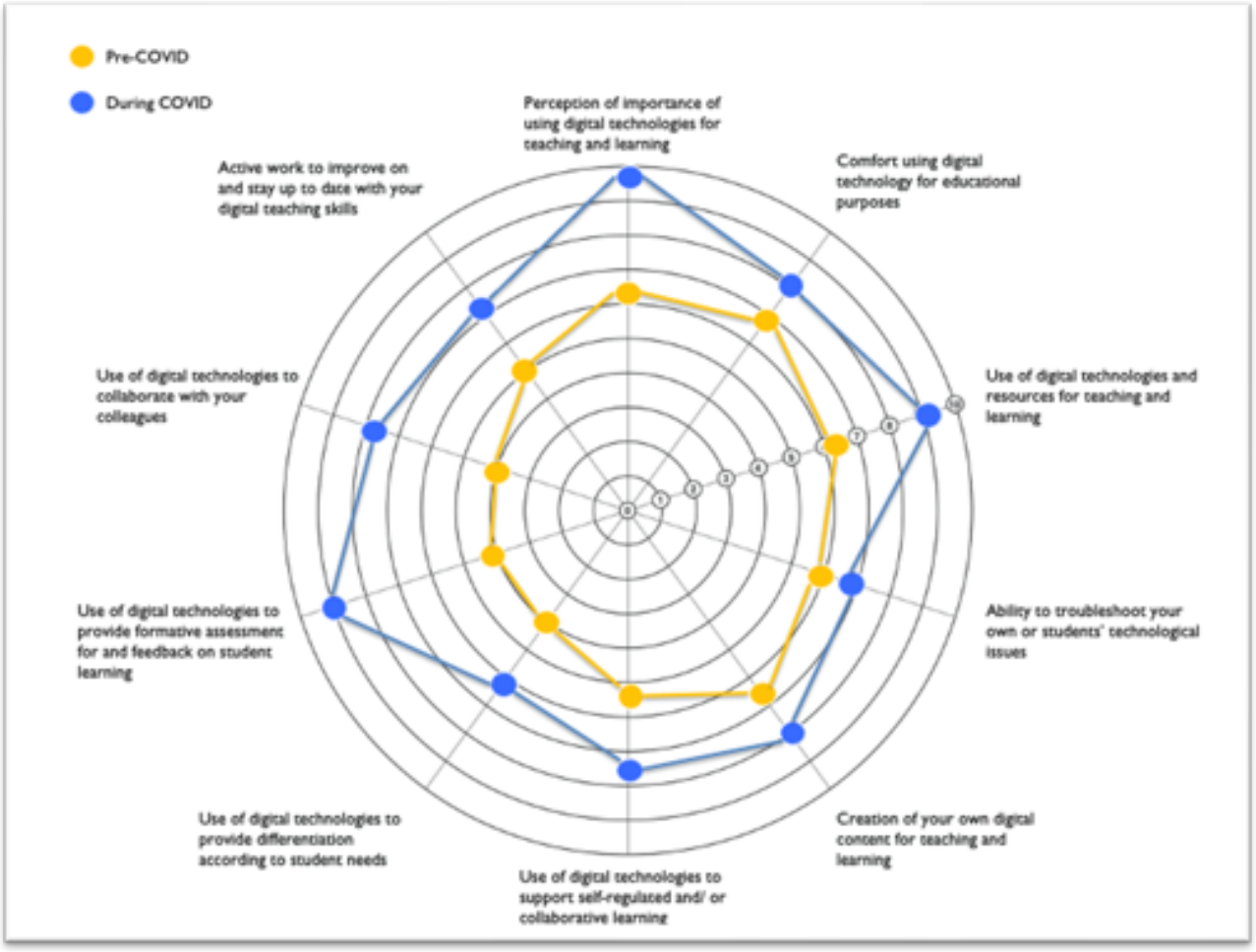
The pandemic brought about a forced increase in AGE teachers' use of digital technologies for teaching and learning. Some of the changes in this use can be seen in Figure 13, which visualizes the average results of teachers' responses both before and during COVID.

The necessity of hybrid and online instruction for safety reasons influenced teachers' perception of the importance of using digital technologies for teaching and learning, as these tools were now necessary to keep learning going. While teachers' use of digital technologies for teaching and learning increased by a few points, their comfort level with the tools and their ability to troubleshoot issues did not show as much growth. Tatiana offered an explanation for why this might be: "I feel like before COVID we [her and her students] were doing very simple things with technology, so I definitely could troubleshoot. Now we're doing a bit more

complicated things." She further added: "I think of myself as such Luddite, just in 2019 compared to now. It's like, 'I'll use my laptop. I'm good to go.' I literally could teach a class on my phone if I had to, which is amazing.

Figure 13

Changes to Teachers' Use of Digital Technologies



Pre-COVID, teachers' regularly used technology to create materials that they would present or print for students. During COVID, they spent more time creating, as they designed new material or adapted existing resources for use in their online and hybrid classes. These materials also needed to be clear enough for students to navigate on a learning management system or during live classes, leading to a jump in technology use for self-regulated and/or

collaborative learning. Use of technology for differentiation increased as well, though teachers reported mixed feelings about whether or not technology made it easier to support students' learning needs.

Interestingly, the elements that showed the biggest change were the use of digital technologies to:

- provide formative assessment for and feedback on student learning, which jumped by 4.75 points, and
- collaborate with colleagues, which jumped by 3.75 points.

Prior to COVID, many obstacles – such as a lack of devices and instructional constraints – discouraged teachers from regularly using technology to provide feedback on students' work or to check their understanding of course concepts. Since more students were using computers for the majority of their learning during the pandemic, some of these barriers were lifted. Likewise, since all staff members were using the same digital tools, it was also easier for teachers to communicate and collaborate with one another.

As previously stated, when I asked participants to reflect on what changes in their use of digital technologies would carry over when they returned to in-person instruction, seven out of eight teachers said that they would continue to use their learning management system to organize and share resources with their students. I was able to check in with four out of the eight participants in the fall of 2021 and all four said that they were still using their learning management systems. However, three of them said that this use was less robust than before, with the LMS acting more as a repository for learning resources.

Disruptions in AGE

The experiences of the eight teacher participants in this research highlight the fact that adult education centres in the English-speaking community in Quebec – like many educational institutions around the world – were ill prepared to launch remote learning options in response to the COVID-19 pandemic, as student and teachers lacked the equipment and skills they needed to make this transition smoothly. The disruptions that occurred in the AGE community were distinct from, though sometimes similar to, those experienced in the youth sector and in higher education.

Youth sector students began receiving remote instruction at the end of March 2020, two weeks after schools initially closed. Adult education students, on the other hand, only began remote instruction at the end of April, a full month later. Unfortunately, as AGE students did not make regular use of their school board email accounts, teachers had difficulty getting in touch with their learners to continue the school year.

Throughout the pandemic, the AGE was rarely explicitly mentioned during provincial press conferences, making it difficult for AGE staff and students to understand which safety measures or directives applied to them. For example, when the Minister of Education announced that exams were cancelled for secondary students, it was not immediately clear whether this included adult education students working towards their secondary diplomas. Viviane said:

> At some point I thought they would ask us to use our professional judgment because that's what they did in high school, so I started portfolios with all my students and I was ready. I was like, "Oh yeah, sure! No exam, no problem." But then, it felt kind of like, "You're not professional enough to have professional judgment," but maybe it's just my reading of the situation. But it really felt like, "Okay, so all of the high schools in

> Quebec, they're not having ministry exams. But us in adult ed – same situation, almost the same students – we have to give them Ministry exams because we don't have professional judgment?" That was not cool.

This was eventually clarified, and adult education students were permitted to return to their centres to write exams. The following school year, the Ministry published a document entitled "Learning to Be Prioritized at the Secondary Level for the 2021–2022 School Year in the Context of the Pandemic," highlighting which elements of the curriculum high school teachers should focus on. Furthermore,

> The scope and length of the compulsory ministerial examinations [were] reduced to make school organization easier. In addition, the weighting given to these exams in the final mark on the report card [was] revised. These examinations [counted] for 10% of the result instead of 20%" (Evaluation of learning, 2020–2021, p. 2).

Unfortunately, no such provisions were granted to students in the adult education sector and exams were still worth 100% of a students' grade in each course. This created inequity for AGE students who were held to higher academic standards than youth sector students, though both groups were pursuing credits towards the same high school diploma.

In-presence learning was recommended but not compulsory in adult education, as it was in the youth sector, and many AGE centres adopted online or hybrid instruction. Class bubbles were not possible in adult education, as each student has a different course load. As previously mentioned, adult education students were denied access to school board bus transportation, preventing some rural learners without high-speed internet from accessing educational services. Thus the pre-existing lack of resources to support adult education students was exacerbated by the pandemic, as students' mental health and motivation suffered. Teachers and students did their

best to adjust as safety measures changed and cases were reported in their classes, forcing hybrid instruction to move online temporarily. In Sapna's case, the introduction of the 8:00 PM curfew in January of 2021 meant that her night classes switched to online instruction for the rest of the school year to avoid issues for students who would be returning home late at night. Overall, the strengths that adult education teachers demonstrated pre-pandemic in terms of building relationships and being organized yet flexible no doubt helped them get through these challenging times.

In the 2021–2022 school year, the Ministry of Education's *Revitalization Plan for Educational Success* announced the following allocations for students and staff in adult education and vocational training:

- $2.7 million to support well-being and mental health,
- $7.2 million for tutoring services and universally accessible pedagogical support services,
- $15 million for support and resources for the development of digital competency (shared with the youth sector).

These funds will address some of the concerns that teachers expressed for their students at the end of their second interviews. However, as the pandemic continues, teachers are still bracing for more disruptions. Claire stated:

> Everyone's kind of waiting to see what's going to happen again. I think that's always at the back of our minds, right, so it's kind of a little bit of stress on everybody knowing that we aren't completely out of it. I mean, less so than last year because at least there's systems in place and we know that they work, but I think teachers are still concerned about it.

Though we met in the fall of 2021, Claire was absolutely right in her hunch; the Omicron variant swept through Quebec's schools a few months later, causing a new round of disruptions.

Implications

The findings of this study suggest implications for changes in practice in the four following areas: improved centre preparedness, personalized professional development for teachers, opportunities for teacher networking, and flexible learning options for students.

As I have already stated, the Adult General Education sector was not prepared for the shift to emergency remote learning brought about by COVID-19. The lessons learned from this time can not only help centres be better prepared to respond to future health or weather-related emergencies, but can also lead to improvements for in-person learning in the present. Previously, adult education centres and school boards in Quebec's English community have not leveraged the use of digital technologies to achieve the goals set out in their Educational Projects or Commitment-to-Success Plans. Additionally, the digital competency of teachers was not viewed as a priority in teacher evaluations. These positions might now be reconsidered in favour of purchasing more devices for student use through special budgetary measures and implementing strategies to encourage students and teachers in the development in their digital skills, all of which align with the provincial government's *Digital Action Plan*.

When it comes to developing digital competency, the one-size-fits-all professional development offered pre-COVID and during COVID clearly did not meet teachers' needs. As teachers adapt instruction for their adult learners, so should professional development be adapted to the contexts of individual teachers. Educators should have flexibility in the goals they wish to

pursue and the choice in how they wish to reach these goals. Options for flexible professional development involving digital technologies can include:

- reading, watching, or listening to educational content,
- taking online courses or attending specialized conferences or workshops,
- working with a Technology Lead Teacher or pedagogical, curriculum, or RÉCIT consultant for personalized coaching, and
- participating in professional learning communities online or in-person.

These kinds of options allow teachers to engage in learning that is meaningful to them, which is a more effective use of their time and is more likely to result in changes in practice.

The participants in this study also expressed needs related to a lack of digital learning materials to use with their students and a wish to connect with other teachers in the community to share ideas and resources. Though the pandemic prevented in-person gatherings between colleagues, it created new opportunities for virtual provincial networking through the launch of AGE specific video conference meet ups and discussion forums. These platforms are still new and will take some time to grow, but they have the potential to be important tools for the exchanging of ideas and resources across centres and for the formation of resource creation working groups.

Finally, while hybrid and online instruction during the pandemic were not a good fit for many adult education students, others benefitted from these options and were better able to balance their academic, work, and family responsibilities. Unfortunately, offering these types of instructional options outside of the pandemic context can be financially detrimental to adult education centres, as Ministry guidelines mandate in-person attendance for full funding and distance education options are only funded at 80% (*Services et programmes d'études, formation*

générale des adultes, 2020, p. 25). However, centres that saw increases in enrolment, attendance, and retention rates with online or hybrid instruction during the pandemic might find that it is worthwhile for them to continue offering these options for some courses in the future. Centres could also present their cases to the Ministry and petition for changes in the funding model to better suit the needs of modern adult learners. Indeed, a 2021 report by the Conseil supérieur de l'éducation stated:

> The funding model for adult education, largely dependent on the number of full-time equivalent students and graduation rates, is also failing to meet the needs of this student population, not to mention contributing to the precarious situation of teachers" (p. 4). The Conseil recommended that "[d]istance learning should be part of services offered in adult education, making it easier to strike a work-study-life balance [for students]. (p. 6)

Limitations

This study is characterized by several important limitations in terms of the participant sample and the data collected, and due to the general uncertainty of the COVID-19 pandemic.

Eight adult education teachers from Quebec's English-speaking community volunteered to participate in this case study research. While this number is not unusual for a study using this design, the sample was not as representative of the target population as it could have been as there were no participants from the Eastern Shores, Littoral, Kativik, or Cree school boards, or from the First Nations Adult Education School Council. This means that the experiences of rural teachers were significantly underrepresented in this research, while the experience of teachers working with students in First Nations and Inuit communities were unfortunately not represented at all. While I could have reached out again to the aforementioned groups, I did not wish to push

too hard for further teacher participation during a time when so many of us were already struggling.

In addition, the data collected during this study consisted of self-reported responses to interview questions and Socratic Wheel prompts. My original research design included the observation of online and in-person classes and the analysis of artifacts like lesson plans, activities, and supporting materials. Though these data points would have contributed to further triangulation of the results, I decided to exclude them from my ethics application for the following reasons:

- Safety measures and travel restrictions were put in place to limit the spread of COVID-19 in schools and across the province. Visiting my participants for in-person observations would have been an unnecessary and potentially dangerous risk for all.
- Observing teachers as they taught their online classes and asking them to provide access to their learning materials or learning management systems could have placed additional stress on my participants and their students. Furthermore, this could have complicated my role as a RÉCIT consultant and researcher within the AGE community, as it is not my place to judge teachers on their use of digital tools or to assist with troubleshooting technical issues, but rather to support them in their professional development.
- Including observations in my ethics submission to Concordia University and to school boards would likely have led to approval being delayed or denied, as this would have involved contact with vulnerable and underage students. As my study is focused on the impact of COVID, it was crucial to begin my research during the 2020–2021 school year.

As such, it must be acknowledged that conducting research during a global pandemic entailed a high level of uncertainty. Both I and my participants had to be adaptable to the evolving epidemiological situation, to the Quebec government's responses, and to our own mental health needs. The limitations of this study reflect these compromises.

Recommendations for Future Research

My experience conducting this study on adult education teachers, the use of digital technologies in education, and the COVID-19 pandemic has left me with three obvious recommendations for future research.

The first is that there is a clear need for more qualitative research into the experiences of both teachers and students in the adult education sector, be it in Quebec, Canada, or abroad, as very few studies exist that focus on these populations. The strengths and challenges of our contexts are not reflected in academic research, and we are left to compare our experiences to those found in the youth sector and higher education, which are similar in some ways and yet also very different. Research into the adult education sector would benefit teachers and students in our communities by providing an opportunity for us to share our stories and learn from one another. In addition, this research could prove useful for stakeholders in other educational milieus, helping to enhance their practice, seeing as adult education students were originally youth sector students and may one day transition into higher education.

My second recommendation for future research involves the exploration of teachers' use of digital technologies and their level of digital competency. My study is qualitative and involves self-reported data, as is the case with many of the studies referenced in my literature review. Further research into these topics should include the use of class observation and the analysis of

artifacts to provide a more complete picture of how teachers use digital technologies in their learning environments, be they in person or online.

Lastly, research into the impact of the COVID-19 pandemic on education is ongoing, as is the pandemic itself. This crisis has pushed educators to learn new tools and strategies to help their learners continue their studies from a distance, but to what extent will this knowledge and skillset transfer to post-pandemic classroom realities? With this study, I have offered a small contribution to the understanding of this issue and commented on implications for changes in practice. Many more studies are needed to reinforce these initial results so that we may learn from the challenges and opportunities that we experienced and make improvements for both present and future students and teachers.

Conclusion

The year 2020 marked a turning point for us all. In survival mode, educators everywhere did their best to support students as they continued on their learning paths. Teachers tried out new practices and learned new tools. They faced many obstacles along the way but also uncovered opportunities. As we adjust to living with COVID, we are now faced with a fork in the road: do we return to the old normal or do we envision a new, better normal? Arundhati Roy, acclaimed novelist, wrote an inspiring essay on this topic in the early days of the crisis:

> Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. It is a portal, a gateway between one world and the next. We can choose to walk through it, dragging the carcasses of our prejudice and hatred, our avarice, our data banks and dead ideas, our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it.

This experience has helped us recognize the real and imagined constraints of the education world. Some changes are out of our control, but others are directly within our sphere of influence. It is important that teachers, administrators, and consultants in the AGE sector take time to reflect on what baggage they want to let go of and what baggage they want to pack as we design a future where adult education students and teachers can thrive using digital technologies to enhance teaching and learning.

Appendix #1 - Summary Sheet

COVID-19 and Adult Education Teachers' Use of Digital Technologies

Researcher: Emilie Bowles, Master's student in Concordia University's Educational Technology program and RÉCIT Consultant in Adult General Education

Researcher's Contact Information: (514)-754-4660 & bowlesemilie@gmail.com

Faculty Supervisor: Giuliana Cucinelli, Associate Professor in the Department of Education

Summary:

The purpose of this research is to explore the experience of English-speaking Adult General Education teachers in Quebec during the COVID-19 pandemic. It asks the two following questions:

- How have teachers in this community experienced the shifts related to the use of digital technologies during the COVID-19 pandemic?
- What disruptions have occurred in the English-speaking Adult General Education community due to COVID-19?

Up to thirteen adult education teachers (1 per board) will be selected to participate in a series of three 90-minute one-on-one virtual interviews. Teachers will also be asked to fill out a questionnaire on their use of educational technology before and during COVID. These questions will be displayed on a Socratic Wheel.

Please note that the participants' identities will remain confidential and boards will not be identified in the published thesis. In addition, no students will be involved in the study.

As both the English-speaking community and the Adult General Education sector are underrepresented in educational research in Quebec, this project adds an important contribution to the field. Furthermore, the COVID-19 pandemic represents a significant moment in our history, especially in terms of its impact on education.

This study is undertaken as part of the researcher's thesis project in the Master of Arts in Educational Technology program at Concordia University. This thesis will be published on Spectrum, the university's open access research repository. The researcher may also submit the results for publication in the LEARNing Landscapes journal and write a short article for the RECIT AGE newsletter.

Appendix #2 – Recruitment Flyer

Share your story: What is it like to teach during a global pandemic?

Research on Adult Education Teachers' Experience of COVID-19 & Use of Ed Tech

Hello! If we haven't met before, my name is Emilie Bowles and I am a RÉCIT consultant in adult ed. I'm currently working on my master's thesis in Educational Technology at Concordia University.

The purpose of my research is to explore the experience of English-speaking Adult General Education teachers in Quebec during the COVID-19 pandemic and their use of digital technology.

As both the English-speaking community and the Adult General Education sector are underrepresented in educational research in Quebec, I believe this project adds an important contribution to the field. The COVID-19 pandemic also represents a significant moment in time in our history, especially in terms of its impact on education.

Interested in telling your story?

- I'm looking for up to 13 teachers from across Quebec to participate in three 1-on-1 interviews, which will all take place online and last about 90 minutes.
- If you were teaching in March 2020 and are teaching this year, you are eligible!
- Your identity will remain completely confidential.
- Feel free to reach out to me with any questions you may have.

Contact

Emilie Bowles

bowlesemilie@gmail.com

[redacted]

Appendix #3 – Information & Consent Form

INFORMATION AND CONSENT FORM

Study Title:
COVID-19 and Adult Education Teachers' Use of Digital Technologies

Researcher:
Emilie Bowles, Master's student in Concordia University's Educational Technology program and RÉCIT Consultant in Adult General Education

Researcher's Contact Information:
[redacted]
bowlesemilie@gmail.com

Faculty Supervisor:
Giuliana Cucinelli, Associate Professor in the Department of Education at Concordia University

Faculty Supervisor's Contact Information:
(514)-848-2424, ext. 2454
giuliana.cucinelli@concordia.ca

You are being invited to participate in the research study mentioned above. This form provides information about what participating would mean. Please read it carefully before deciding if you want to participate or not. If there is anything you do not understand, or if you want more information, please ask the researcher.

A. PURPOSE

The purpose of the research is to explore the experience of English-speaking Adult General Education teachers in Quebec during the COVID-19 pandemic. It asks the following three questions:

- How have teachers in this community experienced the shifts related to the use of educational technology during the COVID-19 pandemic?
- What disruptions have occurred in the English-speaking Adult General Education community due to COVID-19?

B. PROCEDURES

If you participate, you will be asked to engage in a series of three interviews over Zoom. The interview guide will be sent to you in advance and each session will be recorded. You will be provided with a written transcript following each interview.

The first interview will focus on your teaching background and your use of digital technologies **before** COVID. It will last about 90 minutes.

The second interview will focus on the changes that occurred in Adult Education because of COVID-19 and your use of digital technologies **during** COVID. It will last about 90 minutes. The researcher may also ask if you feel comfortable sharing samples of your digital pedagogical materials.

The last interview will act as a debrief. It will occur in the Fall of 2021 once an initial analysis of the data has taken. The purpose of this session is to check-in with each participant and share emerging themes in the data.

In total, participating in this study should take a maximum of 6 hours of your time spread over several months (from March 2021 to October 2021).

C. RISKS AND BENEFITS

There are minimal risks associated with participating in this study.

COVID-19 has impacted all of our lives in significant ways and reflecting on these impacts may bring up some emotional discomfort. That is completely normal. You will be free to take breaks during each interview, skip questions, rebook an interview, or withdraw your participation, should you need to. Please note that there are counselling services available through your school board and through the Quebec Provincial Teacher's Association.

Should you disclose your participation in this study, colleagues and administrators may have questions or concerns. As such, you may wish to communicate with the research using your personal email address and book interview sessions outside of your work hours when you can be at home and speak freely. Please refer any third party questions or concerns to the researcher, who will be happy to answer them and clarify the purpose of the study. Rest assured that all participant information shared with the researcher will remain confidential (see next section for more details).

Lastly, this research is not intended to benefit you personally but is instead intended to contribute to the English-speaking Adult General Education community and the wider Quebec educational network.

D. CONFIDENTIALITY

The following information will be gathered as part of this research:

- the data collected during the recorded interview sessions and in response to the questionnaires;
- demographic information, to ensure that a diversity of Adult General Education experiences is included; and
- contact information, to keep in touch as the study progresses.

Three types of software will be used during this research

- Zoom is a videoconference software;
- LimeSurvey is a cloud-based survey software, and
- Dedoose is a cloud-based data management and analysis software.

Both Zoom and Dedoose encrypt data using AES-256, the highest standard for digital encryption. All survey data collected by LimeSurvey will be stored on a server in Canada.

For a full description of the data protection offered by Zoom, LimeSurvey, and Dedoose, see these pages:

- https://explore.zoom.us/en-us/trust/security.html
- https://www.dedoose.com/about/security
- https://www.limesurvey.org/support/faq/39-data-protection-and-policy/515-where-and-how-is-my-survey-data-hosted-stored

When possible, all Zoom and LimeSurvey will be stored locally on the researcher's computer. This computer is both password and thumb-ID print protected and all files are automatically encrypted. An additional password will be used to access the specific folder housing these recordings, the interview transcripts, and any other participant materials. When the researcher is not at home, she will keep her computer in a locked drawer.

Your identity will be kept confidential. The researcher (Emilie Bowles) will be the only person with this information. Participant data used on the Dedoose platform and will be coded and shared with Dr. Cucinelli, thesis supervisor. Coded information will be identified by a pseudonym. The researcher will have a list that links the pseudonym to your name. Identifying data, such as school boards and centre names, will be removed and simply characterized as

urban, rural, or suburban. The information you provide will only be used for the purposes of the research described in this form.

The researcher intends to publish the results of the research as part of her thesis project. However, it will not be possible to identify you in the published results. You will be able to access the final copy on Spectrum, Concordia University's open-access research repository, in the spring of 2022. The researcher may also submit this research for publication in the LEARNing Landscapes journal and write a short article about it for the RECIT AGE newsletter.

Your information will be destroyed five years after the end of the study.

E. CONDITIONS OF PARTICIPATION

You do not have to participate in this research. It is purely your decision. If you do participate, you can stop at any time. You can also ask that the information you provided not be used, and your choice will be respected. If you decide that you don't want us to use your information, you must tell the researcher before June 30th, 2021. There are no negative consequences for not participating, stopping in the middle, or asking the researcher not to use your information.

The researcher will tell you if she learns of anything that could affect your decision to stay in the research.

The researcher will not be able to offer you compensation if you are injured in this research. However, you are not giving up any legal right to compensation by signing this form.

INFORMATION AND CONSENT FORM

Study Title:
COVID-19 and Adult Education Teachers' Use of Digital Technologies

Researcher:
Emilie Bowles, Master's student in Concordia University's Educational Technology program and RECIT Consultant in Adult General Education

Researcher's Contact Information:
[redacted]
bowlesemilie@gmail.com

PARTICIPANT'S DECLARATION

I have read and understood this form. I have had the chance to ask questions and any questions have been answered. I agree to participate in this research under the conditions described.

NAME (please print): _____

SIGNATURE: _____

DATE: _____

If you have questions about the scientific or scholarly aspects of this research, please contact the researcher. You may also contact their faculty supervisor.

If you have concerns about ethical issues in this research, please contact the Manager, Research Ethics, Concordia University, 514.848.2424 ex. 7481 or oor.ethics@concordia.ca.

Appendix #4 – Interview Guide

COVID-19 and Adult Education Teachers' Use of Digital Technologies: Interview Guide

This document serves as a guide for the interviews that will take place during the course of this study. In total, participating in this study should take a maximum of 6 hours of your time spread over several months.

All interviews will take place online over Zoom, a popular video conference platform. If you have never used Zoom before, please consult the resource below.

- To download Zoom on your computer, tablet, or cell phone, visit: https://zoom.us/download
- To learn how to join a meeting, visit: https://support.zoom.us/hc/en-us/articles/201362193-How-Do-I-Join-A-Meeting-

If you have any questions or experience any technical issues, let me know at bowlesemilie@gmail.com or [redacted].

A. INTERVIEW #1

This interview will focus on your teaching background and your use of digital technologies **before** COVID. It will last about 90 minutes and it will be recorded.

Here are some questions I might ask you:

- *How are you feeling today?*
- *What made you want to become a teacher? (What about teaching brings you joy?)*
- *What are your strengths as a teacher?*
- *How comfortable did you feel with using ed tech pre-COVID?*
- *Were there any barriers in place to your (or your students') use of ed tech?*
- *What kinds of learning activities did you do? What tools did you use?*
- *Did you receive any professional development on the use of ed tech?*
- *What else would you like to add?*

During the interview, I'll also have you fill out some questions on your use of educational technology **before** COVID. These questions will be displayed on a Socratic Wheel. It will look something like this:

Here's how it will work:

- I'll share screenshare the above slide presentation on Zoom.
- Each question has a scale from 1 to 10. Answers closer to the middle of the circle (ex. 1) indicate low agreement with the statement, while answers farther away from the middle of the circle indicate high agreement (ex. 9).
- I'll read the questions and record your answers by moving the yellow circles around on the slide.
- Later I'll connect the dots between your answers, creating a web. This will give us a visual representation of your use of digital technologies **before** COVID.
- I'll have you answer the same questions again in interview #2 about your use of digital technologies **during** COVID-19. That way we'll be able to compare your use of digital technologies prior to and during COVID-19 and see any changes.

After the interview, I'll email you a transcript of our conversation to review and we'll book interview #2.

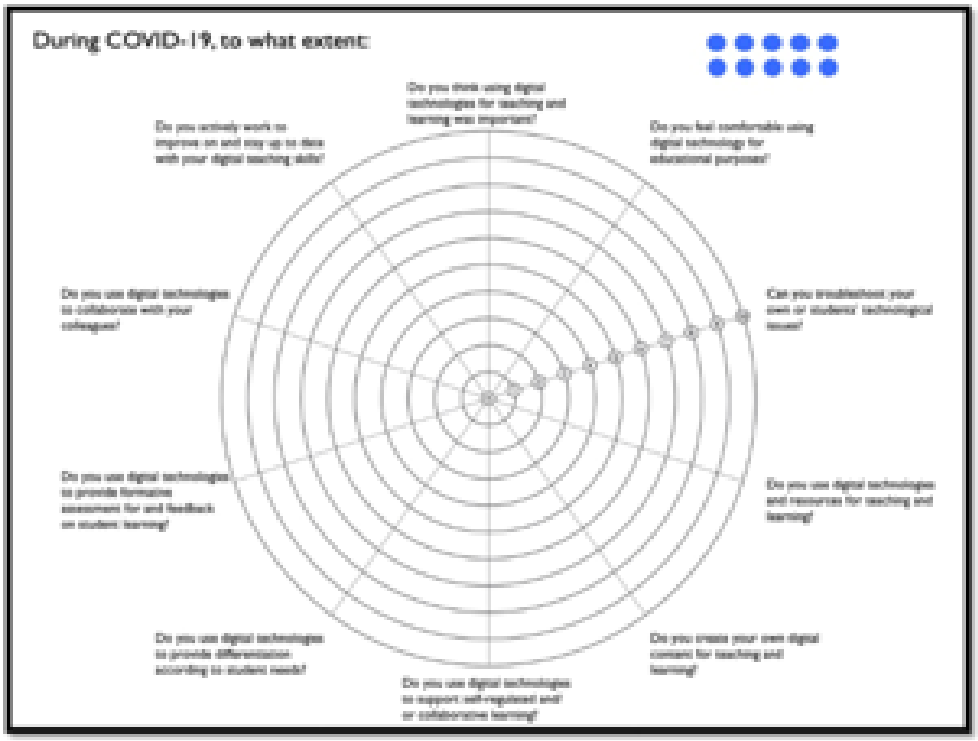
B. INTERVIEW #2

This interview will focus on the changes that occurred in Adult Education because of COVID-19 and your use of digital technologies **during** COVID. It will last about 90 minutes and it will be recorded.

Here are some questions I might ask you:

- *How are you feeling today?*
- *Tell me about what happened when schools shut down in March of 2020. What was it like for you?*
- *What kinds of changes were made in the 2020-2021 school year? (Rules, schedule, etc.)*
- *How do you feel about the safety measures put in place by the provincial government during the pandemic and how these have been communicated with teachers?*
- *How has the move to hybrid or online learning impacted your teaching practice?*
- *How comfortable do you feel with using ed tech now?*
- *What barriers are in place to your (or your students') use of ed tech?*
- *What kinds of learning activities do you do? (Can you show me?) What tools do you use?*
- *What have been the biggest obstacles you have faced?*
- *What opportunities have you experienced?*
- *If the pandemic has impacted how you use ed tech, do you think these changes will carry over to your teaching in a post-COVID world?*
- *What kind of support do you want/need moving forward?*
- *What advice do you have for other teachers in terms of educational technology?*
- *What else would you like to add?*

During the interview, I'll also have you fill out the questions on the Socratic Wheel on your use of digital technologies **during** COVID.



After the interview, I'll email you a transcript of our conversation to review.

C. DEBRIEF

This session will take place in the Fall of 2021 after I've analyzed the interview data from all participants. It should last about 45 minutes and it will be recorded.

The purpose of this session is to check in with you and share the emerging themes in the data before I begin writing the thesis itself.

Here are some final questions I might ask you:

- *How are you doing? What has changed for you since we last spoke?*
- *How do you feel about the emerging themes?*
- *Do you have any final comments to share about your participation in this study?*

Appendix #5 – Demographic Survey Questions

COVID-19 and Adult Education Teachers' Use of Digital Technologies: General Information Survey

The goal of this survey is to ensure that a wide variety of teacher experiences from the English-speaking Adult General Education community are included in this study. It should take about 15 minutes to complete. There are 16 questions in this survey.

All identifying information expressed in this form will remain confidential. Your name, school board, and centre will not be published.

Only the researcher (Emilie Bowles) will have access to this information.

Part 1: Personal

1) *What is your full name?* (Short answer)
2) *What email address should I use to reach you? Feel free to use your personal email.* (Short answer)
3) *If necessary, what phone number can I use to reach you?* (Short answer)
4) *For this study, I will be using pseudonyms to preserve your identity. Do you have a particular name that you would like me to use?* (Short answer)

Part 2: Teaching

5) *What is the name of your school board?* (Select one)
   - Central Quebec School Board
   - Eastern Shores School Board
   - Eastern Townships School Board
   - English Montreal School Board
   - First Nations Adult Education School Council
   - Kativik School Board
   - Lester B. Pearson School Board
   - Littoral School Board
   - New Frontiers School Board
   - Riverside School Board
   - Sir Wilfrid Laurier School Board
   - Western Quebec School Board

6) *What is the name of your centre?* (Short answer)

7) *Which option best fits your centre?* (Select one)

- Urban
- Suburban
- Rural

8) *What type of classes do you have?* (Select one)

- Individualized (multiple courses or subjects at the same time)
- Whole class (one course at a time)
- A bit of both

9) *How are your classes taking place?* (Select one)

- Mostly online
- Hybrid (a mix of in-person and online learning for the same course)
- Mostly in-person
- Other

10) *What subjects/courses do you teach?* (Long answer)

11) *How many years of teaching experience do you have?* (Short answer)

12) *What is your work status?* (Select one)

- I am paid by the hour
- I have a part-time contract
- I have a full-time contract but I am not a permanent employee
- I have tenure and am working full-time

13) *Do you have a teaching certificate (a brevet d'enseignement)?* (Yes/No)

Part 3: Demographics

14) *Do you identify as First Nations, Inuit, or Métis?* (Yes/No)

15) *How do you identify on the gender spectrum?* (Select one)

- Female
- Male
- Non-binary

16) *How old are you?* (Select one)

- Under 30
- Between 30 and 40
- Between 40 and 50

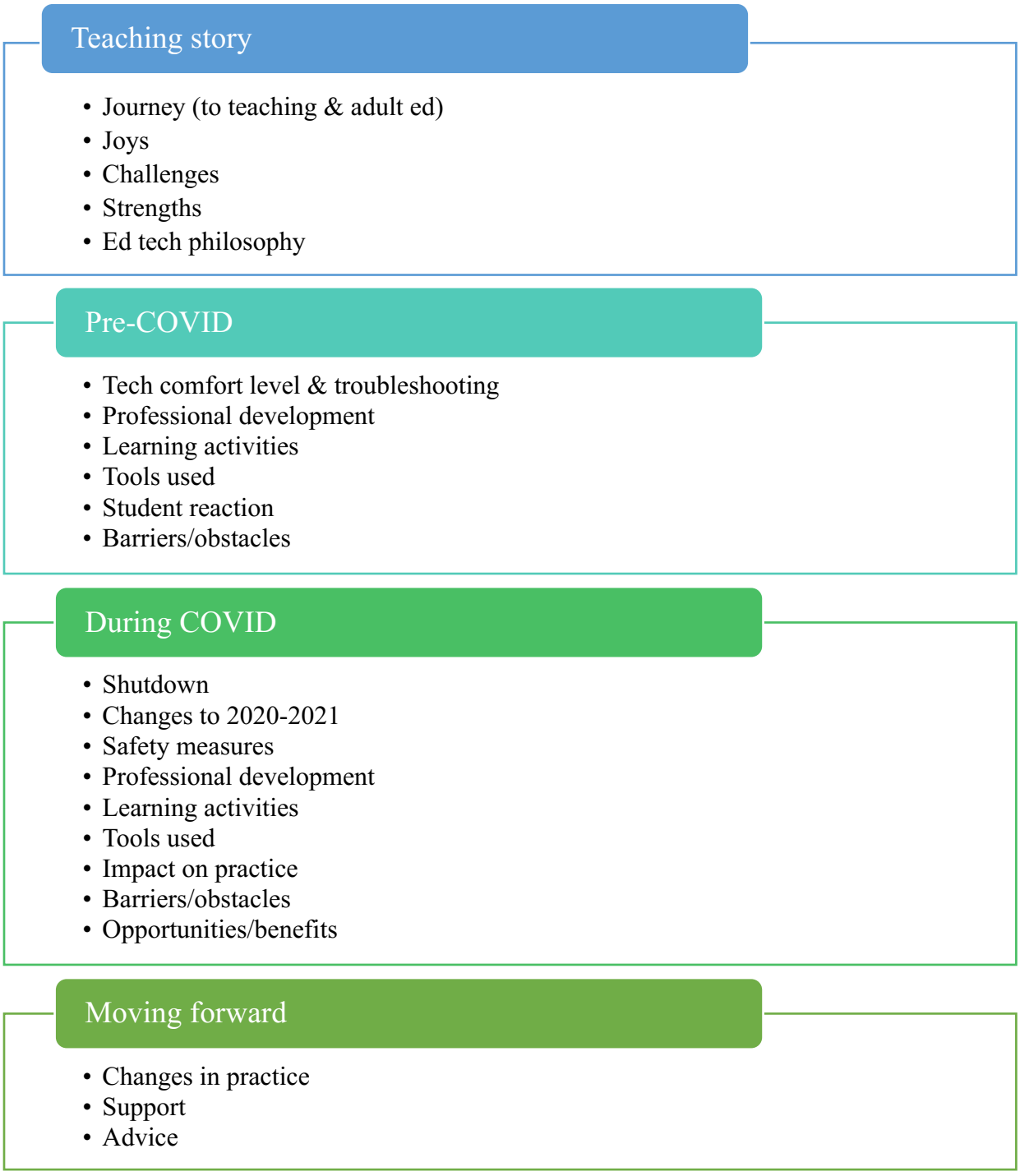
- Between 50 and 60
- Over 60

Thank you for completing this survey!

I will contact you soon to book our first interview date.

In the meantime, please feel free reach out to me at bowlesemilie@gmail.com or [redacted] if you have any questions or concerns.

Appendix #6 – Initial Coding Categories



Appendix #7 – Patterns from Cross-Case Analysis

TEACHING STORY

• *Journey (to teaching & adult ed)*
  o Teaching as first career
  o Transitioned to teaching
• *Joys*
  o Working with adults
  o Student success
  o Teaching
• *Challenges*
  o Supporting students
  o Teaching
• *Strengths*
  o Openness
  o Organization
  o Flexibility

PRE-COVID

• *Digital competency*
  o Tech PD
  o Tech comfort level
  o Troubleshooting techniques
• *Tech use in learning*
  o Types of digital learning activities/resources
  o Tools used
  o Student reaction
• *Barriers/obstacles to tech integration*
  o Computer skills
  o Teaching
  o Institutional
• *Ed tech philosophy*

DURING COVID

• *Reaction to COVID*
  o Shutdown → initial response, checking in with students & keeping the learning going, concerns about online teaching, exams
  o Safety measures → measures & policy changes, communication, student response, conflict with staff members
• *Teaching in 2020-2021*
  o Simultaneous individualized hybrid
  o Online

- *Professional development*
  - Lots on offer
  - Did not meet their needs
  - Teachers giving professional development
- *Teaching during COVID*
  - Learning activities & tools → collaborative activities, individual student activities, teacher-led activities, communication tools
  - Troubleshooting & general comments
- *Impact on practice*
  - Positive, negative, neither
- *Barriers/obstacles*
  - Tech related → access/connection issues, lack of devices, teaching online or hybrid, student accounts/emails, levels of tech savviness
  - Non-tech related → student/staff mental health, lack of bus transportation, language/cultural barriers
- *Opportunities/benefits*
  - Teachers → learning opportunity (catalyst for change), teaching from home, easier to communicate & share with other staff, digital feedback & formative assessment
  - Students → easier to balance commitments, learning materials are organized & easily accessible, increased their digital competency

MOVING FORWARD

- *Changes in practice*
  - Use of learning management system
  - BYOD & regular internet use for creating/sharing
  - Introductory computer course
  - Hybrid or videoconferencing on as-needed basis
- *Support*
  - Online teaching
  - Resources & professional development
  - Student support
- *Advice*
  - Purpose (for ed tech use)
  - Support (ask for it)
  - Vulnerability (it's ok)

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