

Overview of Language Learning Services for Newcomers in Canada

Literature Review



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Executive Summary

Hybrid and online learning environments had become increasingly available and accessible on a global scale even before the COVID-19 pandemic. This is true for Canada's post-secondary education as well as its settlement services. The pandemic necessitated almost all services to move to online environments, thereby requiring settlement agencies, instructors, and newcomer learners to adopt and adjust to online learning environments at a much faster pace than anticipated. While institutions across the globe were able to set up different systems to ensure continuity in learning, restrictions on in-person classes had certainly posed an unprecedented challenge to learners and teachers alike (Chen, 2021).

This literature review provides a brief overview of the shifting landscape of immigration in Canada and the increasing demand for more diverse and inclusive settlement services, especially language learning services. This literature review is divided into four sections. The first section summarizes the evolving needs of and growing diversity among newcomers in Canada. The second section covers the growth of settlement service provider organizations to meet the increasing demands of newcomers. The third section discusses (1) the different types of online learning; (2) online/hybrid learning before, during, and after the COVID-19 pandemic; (3) benefits and limitations of different modalities; and (4) the key considerations for a successful learning experience. The section focuses on the challenges in learning a new language at the same time as learning new technical skills, particularly in an isolated setting, due to COVID-19, wherein learners do not have immediate access to support from other learners or the instructor. The fourth section highlights some best practices in online and hybrid service delivery in the settlement sector, especially in language training. It also offers recommendations to improve services to newcomer clients. One such recommendation is the need for a degree of digital literacy and access to technology, including devices and reliable internet. Successful learning outcomes for newcomers require a careful consideration of different modalities, learners' demographics and characteristics, instructor digital literacy and confidence, technological infrastructures, and access at the organizational level, as well as additional support and resources. The last section presents the limitations of this paper.

This review is part of the IRCC-funded project, "Empowering Newcomers to Succeed."

Changing Needs and Abilities of Newcomers to Canada

According to statistics, during 2018–2019 more than 100,000 newcomers to Canada accessed language training services (House of Commons, 2019). Acquiring language skills is crucial in finding jobs and settling into new communities. Learning the official language and the ability to communicate with people in the community helps build networks and reduce feelings of isolation among newcomers (House of Commons, 2019).

However, the Standing Committee on Citizenship and Immigration (2019) has reported that some newcomers face barriers in acquiring language skills, in the form of long waiting lists, childcare and literacy needs (House of Commons, 2019), as well as the balancing the conflict between devoting time to generate income and spending time to attend language training

Dekker et al. (2018) illustrated how newcomers' digital literacy and use of technology has changed considerably (and continues to do so). In North America, data has shown that the internet remains the main source of information among newcomers (Rayes et al., 2016; Caidi et al., 2014). Newcomers tend to rely heavily on the internet in getting information about pre-and post-arrival services. Along with several internet-based platforms such as Google, online forums, and blogs, family and friends were also found to be crucial sources of information for various newcomers, including refugees (for example, Khoir, 2016; Shuva, 2020).

While many newcomers are digitally literate in the use of mobile technologies and apps – with the smartphone as a primary communication and connection tool and messaging applications like WhatsApp as easy and convenient ways to connect with loved ones – some may lack more general digital literacy relating to the use of computers or the internet. This is evidenced by recent studies that call to address the gap in research on the correlation between the use of internet and decision-making processes of skilled immigrants when settling in a new country (Shuva, 2021).

The Intergovernmental Consultations on Migration, Asylum and Refugees (IGC, 2020) reported the different learning needs of newcomers, which may vary based on their immigration status, their language skills, digital literacy, age and gender. For example, Benton (2019) argued that migrants and refugees may rely more on information provided through social media or their

own contacts rather than on official websites. At the same time, refugees specifically are less likely to access information on the internet as they may lack the ability to differentiate between high- and low-quality information.

A significant change in demographics and learners' needs can be seen between on-campus cohorts and adult online learner cohorts. In a study conducted by NorQuest (2020), data showed that more parents take LINC classes than non-parents; more parents preferred online learning environments than non-parents, who preferred hybrid classes.

The increasing need for diverse and specialized services demands more, or different skills from teachers than when teachers are in an in-person environment. The same is true for institutions as well; more is demanded from them to support and advance the importance of education (Roddy et al., 2017; Bailey et al., 2014; Johnson, 2015).

This shift to online services merits further investigation, especially on how such a shift influences specific newcomer groups and their unique circumstances, such as pre-arrival newcomers, newcomers living in rural areas and those unable to access online services (Monteiro et al., 2023). On the one hand, the availability of digital services can provide crucial pre-arrival service to newcomers before they land in Canada, therefore giving them the edge in their settlement journey. The flexibility in time and the virtual location allows them to join pre-arrival orientations and find referrals with settlement services that might not have been possible before. On the other hand, people who live in rural areas with unstable internet connections and limited transportation will be affected more negatively with online services. In light of this, several alternatives should be considered for those living in remote locations, like delivering settlement information by mail or by hand, or even visiting newcomers in their home. Lastly, people without internet access and who lack the technology and digital literacy to access online settlement services and information are at a great disadvantage. This could be remedied by providing technology training, loaning devices and internet access (Monteiro et al., 2023).

The Growth of Settlement Service Organizations

Immigration, Refugees and Citizenship Canada (IRCC) has a dedicated Settlement Program to ensure smooth transition and participation of newcomers in social, cultural, civic and economic life in Canada (IRCC, Evaluation of the Settlement Program, 2017, p. vi.)

There are different supports and programs provided by the IRCC Settlement Program, such as needs assessment and referrals, information and orientation, language training and skills development, employment-related services, and community connections (House of Commons, 2019). The next sections in this paper focus on language training support and how different service delivery modalities affect student success, depending on these students' goals, learning levels and access to technology. Most examples cited here focus particularly on newcomers and language learners in Canada.

Since the COVID-19 pandemic, online education has become extremely popular, and content for diverse topics can increasingly be accessed via the internet, through mobile devices and apps. These changes also extended to the Canadian settlement sector, where technology is being increasingly used for the delivery of settlement services.

During the peak of the pandemic, the government ramped up their support to settlement service organizations to continue their operations virtually (Monteiro et al., 2023). Although settlement service providers demonstrated remarkable flexibility in making programs available, various challenges persist regarding the implementation of technology in the settlement sector, particularly in terms of reliable and robust infrastructure, accessibility and resources. Additionally, some providers were struggling to cope with staff shortage and provide necessary training and skills to some personnel even before the pandemic (Dennler, 2022; Monteiro et al., 2023). The additional demands to deliver online services during the pandemic further exacerbated such challenges.

In the same vein, many newcomers were facing barriers accessing online services, in turn resulted in increased inequality in their social integration (Barker, 2021). A recent study on the online communications and service delivery in Canada's settlement sector showed that about 94% of frontline and management staff innovated ways to connect with newcomers remotely

during COVID-19 (Monteiro et al., 2023). Settlement practitioners are predicted to expand on their digital services after the pandemic to help newcomers who are unable to access services in conventional ways (Monteiro et al., 2023).

Facilitators of and Barriers to Online Learning

Different types of online and virtual learning

This section covers the most common forms of online learning, such as web-based learning, synchronous and asynchronous learning, and virtual reality. It is important to note that these modes of delivery are not mutually exclusive and are usually conducted together, especially in the United States (MyHill et al., 2007).

Web-based learning

Online learning, web-based learning, and e-learning are sometimes used interchangeably as they all use the web to host online course contents and interactions. The most common forms of class engagement in a web-based learning are done through videoconferencing, live lectures, and emails. Additional course materials may be accessed through hyperlinks that will direct learners to different websites and pages that allow for a more diverse source of information (McKimm et al., 2003).

Synchronous and asynchronous technologies

Contact North Online Learning (2019) reported that synchronous learning, in the form of live chatrooms, video or teleconferencing, or live-streamed lectures, positively influences online student learning because of the similarity with classroom-based interactions. Synchronous technology enables communication and collaboration. For example, small groups can engage in collaborative learning and critical discussion. The direct engagement between students and instructors enables learners to experience a sense of social presence, and leads to a higher degree of involvement and participation.

Asynchronous learning, such as watching pre-recorded lectures or lessons, assignments, presentations, individual or group projects, allows self-directed independent learning and allows students the flexibility to complete work at their own pace. It should be noted that this approach works particularly well for students who have strong time management and prioritization skills, but a more structured environment would benefit other students (Farmer, 2020).

Virtual reality (VR) or augmented reality (AR)

Overall, virtual and augmented reality can create a highly immersive experience for learners. Specific "products" can be embedded in courses or made available through videos or games. TeachOnline.ca (2020) reported that augmented and virtual reality can engage students in effective learning and connect their learning to the real world. Hicks (2016) reported that VR can contribute to eliminating language barriers, as diverse languages can be implemented within the software. Furthermore, VR enables students to participate in simulated real-life situations; through simulated scenarios or environments, students have the opportunity to carefully assess situations in safe and supportive environment.

AR and VR are increasingly common technologies (such as Pokemon Go – AR, or Playstation – VR), and such immersive environments are often associated with gaming (Bonner & Reinders, 2018). Reinders et al. (2015) provided as examples campus tours or location-based games (Bonner & Reinders, 2018; Martin et al., 2017; Potkonjaka et al., 2016). However, VR and AR may not be suitable for all learners: a number of issues can compromise the student's experience. Hicks (2016) noted that VR can deteriorate social connections; furthermore, Ghaliya et al. (2021) found that students who were unfamiliar or uncomfortable with the technology were unwilling to engage with it.

Blended or hybrid learning can be offered in different models with respect to design and delivery and can therefore be particularly well suited for specific student groups or contents (Contact North Online Learning, 2019). Joosten et al. (2021) pointed specifically to scaffolding as a method of improving student learning and success in blended learning environments. Students may need a structure in a blended learning environment to better support their learning, represented through the design and organization of the course, for example, through a balanced approach of online and face-to-face components, or through the use of manageable units or activities (ibid, p. 33).

By spacing such interactions across time and space, students are kept engaged in a task and have consistency in organization and cadence (Joosten et al., 2021, p. 32). Stevens et al. (2021) reported that small group learning – for example in break-out rooms or through collaborative projects – seems to afford higher-functioning students with opportunities to provide input, while other students may feel more comfortable to raise questions directly with their peers, rather than asking questions in front of a large group. Furthermore, online learning can cater to individual learning needs through the diversity of formats and materials available.

Online and hybrid learning pre-, during, and post-COVID-19

Sturm et al. (2018) analyzed the opportunities and challenges in blended learning uptake in LINC programs, based on surveys completed by administrators and instructors. Their findings revealed that the use of technology to teach language at settlement centres had increased (from 94% in 2012 to 100% in 2016-17), and so did access to online language classes (from 66% in 2012 to 96% in 2016-17), because of improved internet access and speed. Key findings in this pre-pandemic report highlight how access to online learning technologies improved the students' language learning, and how students appreciated the flexibility of online learning. However, technological reliability, access to technology, and insufficient professional development continues to compromise students' learning experiences. Students shared that breakdowns in and reliability of technology is a common issue, along with difficulty accessing hardware (Sturm et al., 2018).

As settlement workers provided services to newcomers through creative digital and non-digital means, the settlement sector was forced to embrace technology and collaboration more comprehensively and to incorporate hybrid service delivery models (Liu et al., 2021).

In addition to this shift to a primarily fully digital service delivery, the pandemic significantly influenced the already existing social and economic gaps and inequities: “[t]he physical pandemic has illuminated the crisis of the long-ignored silent one” (ACS, 2021, p. 10). This "silent pandemic" refers to prevalent intersectional social and economic inequalities, which lead to individuals and communities facing intersecting and overlapping systems of disadvantage, exclusion, stigmatization, and lack of supports. During the

COVID-19 pandemic, these inequities led to higher rates of COVID-19 infections and mortality among specific communities, including newcomers. For example, 80% of COVID-10 cases in Toronto were among racialized groups, while over 50% of cases were reported from lower-income households (ACS, 2021). The pandemic increased the demand of support for settlement workers, specifically for newcomers who experience multiple barriers related to gender, age, race, 2SLGBTQIA+ identity, and disabilities (IRCC, 2021). While newcomers with good language and digital skills were able to navigate the global crisis, those with low digital and technological skills and limited language abilities were at a clear disadvantage (Shields, 2021). Amid an already dynamic and changing settlement service delivery, the changes enforced by the pandemic placed even higher demands and pressures on settlement workers, who had to find creative solutions to work with new technologies, their own or their client's lack of technical training, or digital accessibility as they were serving newcomers remotely.

In 2020, NorQuest gathered information relating to students' personal circumstances and characteristics that directly affect their learning preferences and challenges. Familial responsibilities were a determining factor in newcomers' decision to choose a certain learning delivery modality: more women than men reported childcare as a challenge.

The shift to online learning required sufficient technology applications, stable internet connection, and accessible devices. This created pressure on institutions and funders to instantly procure these facilities to ensure continuity of learning through different learning platforms such as Moodle and Google Classroom (Cummings et al., 2021).

While there have been some positive changes with the virtual learning, such as general support within the class for studying online, improving English, and advancing computer skills (NorQuest, 2021), one disadvantage has been a reduction in social capital.

Although there is no singular, universal definition of social capital, it has been described as the profitability of a person's social connections, which are based on trust, shared values, acceptance, solidarity and communal investments. The more social capital an individual has, the greater is their access to information, which in turn benefits the individual and the larger collective community (Gray, 2019; Rural Ontario Institute, 2017; Mulder et al., 2018). Newcomers face specific challenges as they settle in new communities where they may not have established social networks (Mulder et al., 2018).

Early studies on the impact of COVID-19 and social distancing in relation to social capital have indicated that the growth rate of new cases was negatively associated with the amount of social capital, that is, increases in social capital were linked to slower infections (Wong & Kohler, 2020; Varshney & Socher, 2020). Barker (2021), for example, highlighted that the shift to online programs and services particularly affected migrants with low levels of language proficiency (see also Cholera et al., 2020). Similarly, Banerjee and Rai (2020) pointed to concerns around newcomers' mental health and social wellbeing because of reduced social interactions, and specifically the impact on newcomers with limited educational backgrounds or limited access to technology (Mukhopadhyay et al., 2020).

Benefits and limitations of different modalities

The flexibility in schedules and accessibility regardless of physical location are among the most appealing aspects of online learning (Ubell, 2000; Watson & Ryan, 2006). Learners who face barriers attending in-person sessions due to their physical location, unavailability of transportation, special learning needs, or even those who prefer to study at home (Watson & Ryan, 2006) benefit the most from online learning. A report from NorQuest College (Brokop, 2008) indicated that people who have learning challenges make up a significant proportion of learners who frequently access online learning. Learning challenges are defined as “having limited English proficiency, experiencing visual or hearing impairments, being blind or deaf, facing barriers to mobility, or dealing with learning disabilities” (Brokop, 2008, p. 3).

Blended learning offers a range of important benefits for both instructors and students. It can provide broader access to education and enhance diversity, as new technologies can be used both locally and globally, which can result in more collaboration for learners and instructors (Traxler, 2018). The strategic thinking required to develop a blended course provides opportunities for instructors to carefully align learning outcomes in a range of instructional, pedagogical, and technological approaches, which are most effective for students. This offers new possibilities to deliver content. For example, lectures, texts, or demonstrations can be delivered online, allowing students more flexibility and independence to access the content. At the same time, available technologies, such as break-out rooms, online chat, or forums can provide opportunities for students to engage with their peers or

instructors directly, or to apply their knowledge in simulated environments for problem-solving (Joosten et al., 2021).

On the other hand, different modules also raise specific challenges. For example, online learning does not provide the same feedback loop between learner and instructor as classroom-based settings, thus factoring in the instructor's planning. Additionally, people with certain disabilities face specific barriers that others may not experience when it comes to accessing online contents.

Classroom-based learning

Traditional forms of learning, such as in a classroom, provide learners with a broad range of benefits, including the access to different campus activities and resources. It facilitates social interaction as students and instructors engage directly with each other. It also provides opportunities for networking, support, and collaboration. Students may develop a sense of belonging, and the structure of the campus, the classroom, and the routine of specific class times can provide a sense of stability, which may help students to be more focused.

Learners with disabilities who are attending in-person classes may encounter barriers in accessing content materials through formats that create barriers (students with visual impairments), inaccessible classroom locations (people using wheelchairs), and impromptu exams and handwriting activities (people with autism and fine motor impairments) (Block et al., 2006; Burgstahler, 2007; Burgstahler & Moore, 2009; Marshak et al., 2010). For people with hearing disabilities, communication is a major concern in an in-person setting, and for such learners, communication is often triangulated through an interpreter (Lang, 2002). This poses a major challenge for learners with hearing disabilities who often feel left out of classroom discussions due to the lag between the instructors' information and the delivery of content through a sign language interpreter. This may serve to exclude them from dialogue and leads to hesitation in asking questions and contributing to the discussions simultaneously (Long & Beil, 2005).

Antia et al. (2005) believed that the barriers students with hearing disabilities face in reading and writing English mirror the challenges experienced by English language learners. The fast-paced nature of classroom discussions makes it hard for learners to interrupt and ask for clarifications (Long et al., 2007). A classroom environment may also make it more difficult for some

students to speak up or participate if they feel uncomfortable speaking publicly.

Finally, during the pandemic, classroom and camp settings had (and continue to have) a high risk of infections. However, classrooms provide opportunities to develop social connections (and by extensions social capital) for newcomers, many of whom have to develop new social networks. The lack of opportunities to develop these social connections through a shift to online settings may be reflected in deteriorated mental health. While previous studies have suggested that newcomers to Canada experience better self-perceived mental health than established immigrants, Evra and Mongrain (2020) reported that 52% of newcomers indicated that their mental health was "somewhat worse" or "much worse" compared to 44% of established immigrants. Furthermore, 91% of newcomers reported at least one symptom of anxiety compared to 82% of established immigrants, and 30% of newcomers reported symptoms consistent with moderate to severe generalized anxiety disorder (over 21% of established immigrants reported the same symptoms), with more women than men reporting these symptoms (39% versus 26%).

Additionally, classroom-based learning often entails higher costs for the institution (Carey & Trick, 2013). For example, the cost of operating and maintaining buildings, as well as support staff, which may be offset through tuition fees, costs for additional materials, and the cost and time to commute for students as well as staff and faculty. However, the infrastructure of online learning, increased time to develop online content for online or hybrid learning settings, and possible additional fees relating to online libraries or materials must be considered when comparing the cost of classroom versus online learning environments (ibid, p. 43).

Online learning

Purely online as well as hybrid learning options (i.e., a blend of face-to-face and online content) are a fast-growing trend in education and have increasingly been used to enhance classes for newcomers even before the pandemic. The LINC program is one such example (Elsageyer, 2020). Online learning can offer a range of advantages to both students and instructors. It can facilitate both real-time and asynchronous communication between instructors and learners. Specifically, if offered in an asynchronous format, it offers considerably more flexibility in scheduling and can increase access for

students, such as for courses with high enrolment or mandatory courses, as well as for learners in remote communities or those with various responsibilities and complex schedules (Contact North Online Learning, 2019). Asynchronous learning allows students to learn at their own pace and can offer students more engaging and participatory alternatives to lecture-style classes. For example, a lecture does not necessarily require on-campus attendance but can instead be made available as a recorded video.

Online and hybrid learnings provide opportunities specifically for students with other responsibilities and commitments, such as work or childcare, and offer considerably more flexibility as they can access materials and complete coursework in their own time. The online format can provide diverse options for assessments as well. For example, it allows students to assess their own progress and to improve accordingly. Pre-tests made available online can help to highlight areas of weakness (Contact North Online Learning, 2019). Online assessments can be offered as weekly tests, thereby enabling students to collect marks throughout a course. This allows students and instructors to observe student progress through online modules and to highlight areas in which students may need more support (Contact North Online Learning, 2019).

In her dissertation on learning styles of online students in an online LINC program, Elsageyer (2020) reported that instructors feel that students will benefit from enhancing their digital and computer skills more broadly, and encourage them to engage with different forms of technology, such as websites, emails, online shopping, or accessing services. Instructors also reported that students chose the online learning option as it best accommodates their specific circumstances. Online learning also offers a range of benefits to instructors. For example, it allows students to submit assignments electronically rather than as paper copies, using marking rubrics; it also allows for more sophisticated learning analytics, which provide a detailed analysis of individual and group progress (Contact North Online Learning, 2019).

Conversely, online learning does have certain drawbacks. It does not offer students the opportunity to participate in campus-based activities, and it provides reduced social interactions. Technological issues may also emerge during learning, possibly requiring students to have some degree of digital literacy as well as access to technology and internet. Online learning also requires students to be dedicated and have discipline, as content is no longer

delivered through lectures, and – depending on the setting – there is a high chance of distraction.

In addition, specific online contents might also create barriers to some learners with disabilities. In an online guidebook, *Introduction to Web Accessibility*, published by the University of Toronto (Digital Education Strategies and The Chang School, n.d.), the authors provided a brief overview of the different disabilities and the specific challenges to online learning faced by people with such disabilities. While this is not a comprehensive list, the few examples illustrated below will explain the accessibility issues with digital technologies.

People who are blind may have the greatest difficulty accessing the visuals in digital content, especially when the visual content has no text alternative. A screen reader is needed to access the computer or device, or the text might need to be converted to Braille using a refreshable Braille display. They might also have trouble accessing overly complex and excessive digital content or unstructured pages, such as unclear headings, which can also lead to their inability to navigate the entire page. Moreover, clicking on some web pages may inadvertently redirect them to a new page. Multimedia might be missed or inaccessible when there is no audio transcription. Finally, people who are blind might not be able to finish the tasks due to time constraints and the amount of time they need to navigate the whole page.

For people with low vision, digital content needs to be magnified for it to be accessible. While they may not always use a screen reader – not as much as people who are blind – people with low vision require a screen magnification program to make things more visible. A text customization feature on the web or word processor, as well as a text reading software are examples of such tools. Despite the availability of these features, people with low vision may still find it difficult to access digital content that contains elements that are non-resizable or images of text that pixelate when zoomed in. There might be inconsistencies in navigation, and contents with low contrast against the background might be difficult to read.

Similarly, people with hearing disabilities struggle to access audio contents without text-based alternatives. The written language of a website may pose additional limitations for people who communicate with American Sign Language (ASL), other sign languages, or in a second language without interpretations.

People with mobility-related disabilities have different ways of accessing digital content. As mentioned earlier, people on wheelchairs may face barriers moving around physically but are completely fine doing things digitally. While a mouse or keyboard are commonly used to navigate through digital content, people with fine motor impairments can take advantage of a voice command feature to click on certain elements in the page. Some with difficulty using a mouse can use a keyboard. One limitation they experience is when certain elements are too small to click or cannot be controlled with a keyboard.

Similarly, people with learning and cognitive-related disabilities have a variety of options when it comes to accessing digital content. Accessibility varies from person to person. Those with mild reading-related disabilities might be able to access more content than those who have severe cognitive disabilities who have limited ability to communicate and process information. However, overly complex or advanced language may not be easily accessible to this population. Unstructured and inconsistent formatting can also pose challenges in accessing content online.

The availability of email and communication platforms that do not require speaking might be beneficial to people with speech impairments. However, their ability to participate in audio conferences in distance learning might be limited (Burgstahler, 2002).

It is also important to note that barriers to and issues of accessibility are not exclusive to people with disabilities. The challenges mentioned above also affect different types of people with learning challenges (Brokop, 2008) such as people in ESL classes or those over the age of 50 who might experience age-related loss of sight and hearing (Introduction to Web Accessibility, n.d.).

Key considerations for positive learning experiences

Environmental needs for providing a successful learning experience

The lack of standardized professional development and competency frameworks across the sector remains one of the most pressing issues at all levels in organizations, and if not addressed promptly, it will exacerbate further (Liu et al., 2021). The authors emphasize that organizations should not rely on a specific technology, but instead the design of digital service delivery

should consider client needs and the actual technology used by them, their needs, preferences, and literacy (p. 4/5). A “floor of competencies,” which explores and supports the needs of agencies to provide a framework for digital service delivery should include technologies, infrastructure, digital literacies, and capacities.

To better understand the challenges surrounding the use of technology for remote service delivery, a survey of Canada’s settlement sector during the pandemic conducted by North York Community House (2020), asked frontline workers and leaders in settlement sector organizations about the aspects of the job that were not transferable remotely. 51.92% responded that face-to-face interactions could not be replaced by remote interaction, 22% reported that group and social interactions could not be replaced by remote interaction, and 19.23% believed that making deeper connections with clients could not be accomplished remotely (North York Community House, 2020, 37). Most practitioners felt that making connections with clients was more difficult without face-to-face interaction, and a considerable number discussed the digital divide and the issue of digital literacy (12.50%) (North York Community House, 2020, p. 37). The specific needs of newcomers in the settlement sector, such as the need to build a sense of trust and rapport with the settlement worker, must be considered in the context of an online learning environment, just as it is considered in in-person community spaces.

Student characteristics

Specific aspects have been found to inform a learner’s use of technology. Age and gender, for example, can relate to negative attitudes toward technology (older newcomers may not be comfortable using online services and programs; see sector survey by North York Community House, 2020, p. 30). On the other hand, a more positive attitude and higher levels of confidence among younger adults also inform a learners’ use of technology (Morris & Venkatesh, 2000; Morris et al., 2005; Li & Kirkup, 2007). Griffiths and İnceçay (2016) pointed out that learning styles can be an important aspect in successful learning and may be influenced by cultural contexts and learning practices and preferences (Ellis, 2006; Zacharis, 2010; Karthigeyan & Nirmala, 2013; Nematipour, 2012; Heah, 2019; Lee et al., 2016). Similarly, an instructor’s characteristics, such as their age, gender, aptitude, and personality may also influence their teaching style, as well as their use of technology and digital applications (Elsageyer, 2020).

Bruggeman et al. (2020) argued that due to the changing student demographic enrolled in online courses, instructors need to consider students' other commitments and allow for elements that allow students to learn at their own pace or to access resources and materials repeatedly. Similar findings have also been reported in other studies. For example, Stevens et al. (2021) noted that the presence, engagement, and rapport of the instructor with the students, as well as a sense of community and trust among learners, are vital for effective digital learning outcomes (ibid, p. 281).

Keun (2021) noted that excessive focus on the assessment of students' progress lead to a lack of motivation and success: as students had to pass tests to progress in levels, their focus shifted to the pressure of having to pass the test, rather than learning about language and culture.

Barriers that newcomers face when accessing training and services

Technological barriers

Research has highlighted different technological barriers experienced by newcomers. While some newcomers may have excellent language skills and high levels of digital and technological literacy, many may have limited or no access to appropriate technology, such as laptops or tablets, sufficient and affordable internet services, or appropriate workspaces. The North York Community House (2020) through its survey indicated that approximately one-third of newcomers were struggling with technology or access. Dumford and Miller (2018) highlighted that poorly functioning technology can hinder learning and engagement. If students and/or instructors have to devote time and resources to access content, it can negatively affect students' overall experience and perception of course.

As a result of such barriers, newcomers may face difficulty accessing language learning and employment services information on governmental or community support on available services, as well as social isolation. On the other hand, attending in-person programs provides opportunities for social contacts and activity. Individuals struggling with mental health challenges may not access online counselling services, and this issue was further exacerbated by the pandemic. Large families may only have access to one computer, thereby making it difficult for older or young learners to meet all their educational needs.

In this context, Seifer's (2016) definitions of digital equity and inclusion illustrated the requirements for the full participation of all members of a community. Participants must have access to an affordable, robust broadband internet service; the internet-enabled devices need to meet the needs of the learner; learners must have access to digital literacy training; learners must have access to quality technical support, and online content and applications must enable and encourage self-sufficiency, participation, and collaboration.

Language barriers

The connection between digital literacy and language proficiency is complex, and low language skills can considerably reduce a learner's ability to engage fully with online content. Literacy has been identified by some researchers as a prerequisite for digital skills (van Deursen & van Dijk, 2016). Stone et al. (2020) noted that the limited use of the internet by some learners was linked with low literacy and numeracy, and that disadvantaged learners experienced multiple barriers, which may lead to low levels of confidence and motivation. The authors highlight that literacy is intrinsically linked to a broad range of online tasks, including logging in, passwords, email address to information processing skills. On the other hand, ISS of BC (2020) noted that "digital skills do not correspond to language skills" (p. 2), highlighting that while it is possible for newcomers to have strong language skills, they may not be able to use the internet, or beginner English learners may have high levels of digital literacy. Quoting a settlement services provider, Campana (2021) noted that "close to 20% [of newcomers] don't have functional literacy in their first language [...] A fifth of your audience doesn't read the language? Why did you bother translating it? [...] if we're gonna push the message to people, well, maybe we should be using WhatsApp voice messages, because that's what's going to be effective. It doesn't presuppose literacy. And that literacy bias is so huge." The experience of language barriers also has considerable emotional impact, including feeling stressed, lonely, shame, nervous, depressed, or powerless (North York Community House, 2018).

Urban versus rural

Increasingly, immigrants to Canada choose to settle in rural areas due to the lower cost of living, better quality of life, and local job opportunities. In addition, privately sponsored refugees are supported by smaller towns and communities, and the Government of Canada also uses immigration as a

strategy to expand rural centres (Lam, 2019). While several barriers exist for newcomers to Canada across the board, some barriers are specifically unique to rural areas and should be considered in service delivery approaches. In general, rural areas do not have access to the same extent of services provided in urban centres, including settlement services. Rural areas experience lack of public transportation, availability of translators, and limited access to childcare, health care, education, recreation, and employment (Lam, 2019). Specifically, access to reliable internet remains a considerable barrier for individuals in rural areas. Liu et al. (2021) highlighted that while internet speeds increased for urban users, it has fallen in rural areas. Having limited or no internet access and small support networks make accessing settlement services and maintaining contact to social and cultural connections for newcomers in rural areas particularly difficult.

Recommendations and Best Practices

The need for additional resources

While online learning provides a multitude of resources to keep students engaged, classroom or textbook content cannot simply be uploaded with the expectation of similar learning outcomes. Furthermore, while many students are digitally literate and comfortable using different technologies in their education, not all students are equally capable and may require assistance adopting technologies, specifically in a learning environment. The development of such resources and tools can be undertaken by faculty and instructors, libraries, and student support centres (Contact Open North Online Learning, 2019).

Resources for students and instructors

The standards for online learning and blended courses in institutions and organizations need to be articulated in plans and policies and have implications for the curriculum, available resources, staffing, academic freedom, and course ownership. These standards should also involve considerations of the digital divide, digital accessibility and literacy, information sharing among organizations and institutions, and confidentiality. Institutions could provide physical spaces on campus, which will facilitate opportunities for class discussion and collaborative projects to facilitate a

blended learning model. Linking the online learning environment with off-campus activities has been found to enhance learning and promote personal and social development, while also improving academic performance in class (Larsen et al., 2017; Claiborne et al., 2020; Takeuchi et al., 2016; Ryan & Deci, 2020). Other recommendations made by instructors include providing laptop-lending libraries (AAISA, 2021) and creating an online database with answers to common student questions (Cummings et al., 2021; Liu et al., 2021; Englander & Russell, 2021; Contact North Online Learning, 2019). Students and instructors need support to provide them with access to services and resources to facilitate a blended learning environment. Resources containing information about accessing online programs and services, such as course registration, financial aid, email, or other campus communication systems, can be made available to students in the form of short videos or full modules.

As online learning imposes new demands and roles on instructors, the importance of teacher training to use technology efficiently in online learning environments cannot be overstated (Elsageyer, 2020; McBride, 2018). Specifically, the need for paid time for instructors to further their own professional development has been repeatedly emphasized by researchers (McBride, 2018). Lam (2000) indicated that teachers prefer using technologies they are already familiar with. At the same time, an online learning environment makes it more challenging for instructors to accurately assess their students learning progress. Elsageyer (2020) found a considerable discrepancy between teachers' perceptions of students' learning styles and students' self-reported learning styles.

Best practices in online or hybrid service delivery in the settlement sector

Communication: Effective communication between instructors and learners requires timely and clear formats, such as email, chat, online assessments, and transparent feedback.

Social interactions: Collaborative learning and engagement as well as interactivity, for example through online chatrooms or discussion boards, have been linked to higher learning outcomes among post-secondary students (Thurmond & Wambach, 2004; Kent et al., 2016). This is also reflected in surveys among settlement service providers, who also emphasize

the importance of face-to-face interactions. Through increased direct engagement in online learning settings, students experience the similarity of classroom-based interactions, thereby encouraging a higher degree of involvement and participation.

Technology and apps: Products can be embedded into online or hybrid learning environments and can contribute to students' successful learning outcomes and engagement, connecting their learning to the real world. However, students' digital literacy and access to technology must be considered to ensure that they do not lead to student disengagement and contribute to isolation. The assessment and understanding of students' learning needs and factors that impact them are important. It is vital that instructors and learners have access to user-friendly designs and adequate technological support.

Asset-based approaches: Rather than focusing on the needs of newcomers, studies recommend taking an asset-based approach and working with strategies and technologies that newcomers already have. For example, refugees may use smartphones over computers and may rely on WhatsApp and other social media sites to maintain connections and access services. Similarly, learners in employment-related language services have been found to be more likely to progress and use official languages (leading to positive employment outcomes). Tyyskä et al. (2017) noted that language challenges are often addressed as shortcomings, while structural issues, such as access, tend to remain unrecognized.

Accessibility: Programs that work closely with ethnic community organizers can provide translation services for newcomers with language barriers, transportation, and childcare support in parallel with other services. At the same time, some settlement service agencies offer childcare programs in parallel to other programs and services, thereby enabling parents to access support and programs as they need it.

Student digital and language literacy: A key emerging theme, specifically in studies on settlement services, is the importance of students' digital and language literacy, which should inform the choice of technology and pedagogical approaches. For example, while some aspects of asynchronous learning, such as pre-recorded lectures, presentations, or assignments, allow for independent learning and offer flexibility, this environment may not be suited for learners with lower digital or language skills, or those who require a more structured environment. Research indicates the importance, to some

degree, of technical skills, effective time management, and online self-reliance as key elements of student readiness for online learning. Thus, student assessment prior to their engagement with online learning environments is vital.

Comments and Limitations of Research

This literature review draws from a blend of research and reports relating to experiences of students in online, hybrid, and face-to-face learning environments in post-secondary institutions, such as colleges and universities in diverse settings. It also draws from research specifically on newcomer populations and the settlement sector in the Canadian context. While some overlap exists between the two populations, it should be noted that the circumstances, specific characteristics, and needs of newcomers are vastly diverse and cannot be directly compared to a general post-secondary student cohort, many of whom are not newcomers and are subsequently not experiencing the same challenges and barriers. Furthermore, Dziuban et al. (2018) pointed to limitations of studies on outcomes in blended learning environments, as different techniques, approaches, and methods cannot easily be compared. For example, online lectures, email, lab assignments, and break-out activities are vastly different and cannot be directly compared to each other or to classroom-based settings.

Additionally, when exploring learning outcomes between online and face-to-face course formats, some differences may exist in relation to the online medium or to differences in student characteristics, or a combination of factors. Future research into student learning outcomes in relation to online, hybrid, or face-to-face programs should consider a range of aspects that may contribute to the student experience. Similarly, future research should consider the intersectionality of newcomers and instructors. Existing research indicates that characteristics such as age, gender, personality, cultural contexts, and digital literacy play a role in how students engage with content and how content is developed and presented by the instructor. While some studies do report on demographic information on the student cohort, research on the settlement sector has not examined information on specific student demographics among newcomer learners.

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