Exploration of the Role of Digital Literacy in Refugee Migration and Resettlement

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This work is dedicated to my parents, Nauman and Tahira.

Mama and Papa, thank you for teaching me the power in seeking knowledge, the power of being an educated Muslim woman, and the responsibility we have to help those around us. Your resilience, wisdom and humbleness inspire me endlessly. I would not be where I am without your support and love. Thank you for everything.

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Abstract

Objective: To explore the role of digital literacy on refugees as they resettle in Edmonton, Canada, and identify supports to help them in overcoming gaps in education, employment and strong community support systems.

Methods: This study used a qualitative research method in a case study approach. Thirty two participants enrolled in digital literacy training programs at the Multicultural Health Broker Society (MCHB) and the United Cultures of Canada Association (UCCA) participated in a focus group discussion between June 18 and July 11, 2021. The focus group discussion focused on experiences with digital literacy, exposure to technology prior to migrating to Canada, experience with technology after migration, exposure of technology within the household, and journey in digital literacy with respective educational training (UCCA or MCHB). Using the data obtained from the participants' responses, a content analysis was completed to examine patterns, similar struggles, and resolutions.

Results: The results gathered from the qualitative focus group were compartmentalized in the following categories: Overview of Participants, Experience and Exposure to Technology Prior To Migration (to Canada), Experience and Exposure to Technology After Migration (to Canada), Experience with Digital Literacy Training Program, Building Blocks For Successful Integration. These responses gathered from the focus groups brought to light many of the struggles and strengths of refugees and immigrants that can sometimes go unnoticed.

Conclusion: The findings of this study suggest that digital literacy has the ability to affect refugees resettling in Canada in positive and negative ways, depending on the following factors: exposure to digital technology and access to digital tools, level of language literacy, and strength

of support systems. Data also revealed that digital technologies can be leveraged to support refugees in learning, finding employment in their new country, and creating connections with new support systems.

Keywords: Digital Literacy, Refugee Resettlement, Refugee Integration, Digital Training, Newcomers Digital Literacy, Literacy, Digital Literacy Accessibility

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Introduction

In 2020, the Government of Canada announced its plan to settle over 30,000 refugees in the next 12 months, reinforcing Canada's positive contribution to refugee protection internationally, (*Government of Canada* 2020). While Canada proves to be a safe place to live for those fleeing war-torn countries and crisis, there are isolating factors that come into play for refugees once they land in a place of refuge, including separation from loved ones, the inability to integrate into the new society, and the struggle in keeping up with the fast-paced technological world (Reid, p. 6, 2021).

The great divide that exists in access to technology between nations like Canada versus underdeveloped countries seems like something distant from us Canadians that are so fully immersed in the world of technology. We are surrounded by the calls of Big Tech, many of us familiar with social media platforms like Facebook, the ease of ordering something online on Amazon, and the comfort of having Google at our fingertips for when we do not have all the answers. These luxuries, however, are only accessible to 60% of the world's population, meaning 40% of the world still remains offline (Kemp, 2021). Within this population of people unfamiliar with the terrain of the World Wide Web are refugees. Refugees coming to Canada are unfamiliar with the technological tools and applications that we have become accustomed to, and are now fully engrained in (Kemp, 2021). For refugees that have never seen a television before, or know what a keyboard is, or how far-reaching the internet and its resources are, this is an entirely foreign world.

I first came into contact with refugees that had recently migrated to Canada with little to no knowledge of English, or the internet, or their new hometown, while volunteering at the Multicultural Health Broker Society (MCHB) in Edmonton during one of my graduate courses. MCHB is a non-profit organization based in Edmonton, Alberta that offers support in digital

literacy training (amongst other programs in resettlement) for refugees and newcomers. I began volunteering at MCHB in their Digital Literacy for Employment program in which refugee learners (typically women) were taught the basics of a computer and a mobile phone. This included individualized learning on how to open a web browser, how to use a search engine, typing, drafting documents like resumes and cover letters, and sending emails. Having been fortunate to have lived majority of my life in Canada where I have been surrounded by technology, it was to my surprise when I learned that there were middle-aged men and women within the program who were using a mobile phone or a computer for the first time in their life. I was intrigued with the process of learning for these refugees, and moved by their stories of resilience and strength. With the connections I made at MCHB, I came into contact with another non-profit organization, the United Cultures of Canada Association (UCCA), which offers similar digital literacy training programs to refugees. While volunteering at both MCHB and UCCA, I saw the similarities in the struggles for the refugees as they tried to integrate into Canada, and their struggles in integrating with technology. The focus for organizations like MCHB and UCCA is on providing resources and training for the long-term adjustment for refugees as they integrate into Canada. One of these adjustments is the acquisition of language – many of these refugees were illiterate in English. However, even more so struggling in digital literacy. Where language acts as a barrier for these individuals in their integration, I wondered to what extent their lack of familiarity of the technological world affects their integration.

Many of us have found ourselves in situations where we have had to learn a new technological tool from the start. We may have also been in a position where we had to teach someone else how to learn a new technological tool from the start. For refugees, this is a very common phenomena where they struggle in learning a new tool as well as a new language.

Social integration becomes a hurdle as they navigate their way in learning a new environment and lifestyle. While digital technology has paved the way for individuals across the globe to feel connected, digital illiteracy can cause isolation and disempowerment, especially for those who are already struggling with learning a new language. Unfortunately, many newcomers come to Canada and struggle in keeping up with the fast-paced nature of the technological world. This hinders them in finding jobs, forming new relationships, and maintaining old ones. As refugees begin their journey to create new identities, the role of digital literacy is of greatest interest to me.

To explore the integration journey of these refugees, the following research question for this study was developed:

RQ1: How does digital literacy affect the integration of refugees in Canada?

RQ2: How can digital technologies be used to assist refugees in overcoming gaps in education, employment and developing support systems?

I believe that learning the stories of the struggles and lived experiences of refugees can help us in developing a better understanding of what they require from their communities and what skills in technology they deem necessary to master in order to successfully integrate within their new society. By doing this research, I want to contribute to the body of knowledge that exists currently on digital literacy for refugees to inform non-profit organizations and funding agencies on what types of resources these refugees need to successfully resettle in their new society.

This qualitative research study uses a case study approach. I conduct focus group discussions with students enrolled in two separate digital literacy training programs (offered by the UCCA and MCHB) to gain a holistic view of the shared issues and struggles for newcomers in digital literacy training. I opted to conduct focus groups due to their interactive nature that

often allows the ebb and flow of conversation between the participants (Gavora, p. 11, 2015). As many of the refugees have shared struggles, I wanted to have these struggles highlighted through their discussions and give them the room to add more as they recalled experiences from listening to their fellow classmates. With integration being a key aspect of my research question, the interactive approach of a focus group allowed for the newcomers to discuss their shared experiences and struggles in integration, learning new skills, and enjoy discussing their previous limited exposures to technology. Using focus groups also provided the participants with the opportunity to express themselves in front of their classmates, instructor, and myself as the researcher. As indicated by the instructors, self-expression and comprehension are key aspects in literacy learning, making the focus group approach ideal.

A research methodology I considered was doing the interviews separately with each individual learner, however, this would have implied that I have a smaller sample size (simply due to time constraints and availability of each individual participant). Additionally, individual interviews would not have allowed for that interactive conversation that occurs between the participants in their shared experiences and struggles. For these reasons, a focus group approach was determined most suitable for this research study.

This research study is divided into three sections: the literature review which will summarize key academic literature on which this study is founded; the research design and methodology chapter which entails the approach I utilized for the data collection; and, the findings and discussion chapter, in which I will analyze the data I collected and discuss the implications in a wider context for refugee migration, digital literacy, and resettlement.

Literature Review

Introduction

Technology has fully integrated the lives of Canadians, in many ways simplifying modern life. It has revolutionized connection, efficiency, and improved the quality of our personal experience (Riva et. al, p. 581, 2020). For refugees and newcomers, however, technology is often an experience as foreign as the new land that they enter. As refugees embark on the resettlement process in Canada, they struggle in adapting to the highly technologized world that they have little to no literacy in.

This literature review explores the research that has previously been conducted and can greatly contribute to supporting my research which will explore the role of digital literacy in refugee resettlement in Edmonton, Canada. In this chapter, I will outline the methodology and eligibility criteria that I used in finding and analyzing the texts included in my literature review. Following this review on the methodology and eligibility criteria, I will discuss the literature to provide a comprehensive understanding of the research that exists currently relating to the themes of digital literacy in refugees and refugee resettlement and integration.

Methodology

As my research questions focus on the interconnected nature of digital literacy and refugee resettlement, I wanted to find literature that would directly help me in seeing other perspectives and identify the key themes that emerge. Using my research question, I identified the themes that I was most interested in: impact of digital literacy on relocation/integration/identity reconstruction, gaps in integration (including intergenerational, societal and educational gaps in relation to digital literacy), sharing

refugee experiences with technology, barriers to success, digital security, and optimizing digital technology for vulnerable populations. Having divided my research questions into these components, I was able to narrow down searches to find sources that directly apply to each theme and categorize them as such in my eligibility criteria.

For my literature review, I largely depended on gathering sources from the University of Alberta's Library Academic Search Complete and EBSCO databases. As mentioned above, I specifically focused on combining keywords that were from the themes I had identified, (i.e. refugee resettlement *and* digital literacy, immigrant *or* refugee, *and* barriers). My research question focuses on the links between resettlement, digital literacy and refugee experience, and I wanted to find sources that helped bring that interconnectedness to the forefront. Presented below are examples of my Literature Search Keywords that I used in my literature search.

Literature Search Keywords
Refugee (*or* immigrant *or* newcomer) *and* Digital Literacy
Digital Literacy *and* Resettlement
Barriers *and* Refugees
Digital Literacy *and* Relocation or Integration or Identity
Digital Literacy *and* Education *and* Refugees
Digital Literacy *and* Children *and* Refugee (*or* newcomer)
Digital Literacy *and* Adult Learner *and* Refugee (*or* newcomer)
Focus Group (or storytelling) *and* Refugee

Eligibility Criteria

Using my research question to guide me in finding the studies that had been previously completed, I created a table in Microsoft Excel as an eligibility criteria. To

conduct my systematic library search, this eligibility criteria included themes, dates of publication, the methodology with which the research was conducted, and any possible bias. Also included in my eligibility matrix was a box called 'lightbulb moment', and this was used to capture any notes that stood out to me in particular, as well as any limitations that I found with the resource. Additionally, I created a field to identify whether the source was peer-reviewed and the number of times it had been cited (giving more preference to sources that had been peer-reviewed). As my own research was focused on Canadian refugees, in hunting for other resources I was also curious on where the study was conducted, and I created a field in my eligibility criteria to compartmentalize this as well.

Discussion of the Literature

This literature review is categorized in a thematic sequence as I tackle the various aspects of technology in the lives of refugees, beginning at the macro-level. It has been categorized using the same themes outlined in my eligibility criteria, and will be presented in the following order: impact of digital literacy on relocation/integration/identity reconstruction, gaps in integration (including intergenerational, societal and educational gaps in relation to digital literacy), sharing refugee experiences with technology, barriers to success, digital security, and optimizing digital technology for vulnerable populations.

Impact of Digital Literacy on Relocation, Integration, Identity Reconstruction

As refugees come to Canada, digital literacy plays a big role in their relocation, integration and their identity reconstruction as they work to make a new home and a new life here. Technology has the power to empower, and research has been done to explore the ways in which technology has facilitated refugees in regaining a sense of confidence, dignity and relief. Saputra

and Al Siddiq (2020) conduct a literature study method to emphasize the importance of digital literacy competence, stressing that it is now a life skill necessary for today's technological world. The article discusses the various kinds of socio-cultural changes that continue to impact people due to the flow of globalization and information (p. 158, 2020). A key piece highlighted in this article is the idea of the emergence of new jobs that require new competencies as well, and this resonates well with my research on newcomers because if newcomers do not have the support needed to help them gain those competencies, then it will greatly hinder their success and integration into the new society. Digital literacy impacts newcomers in their resettlement process as many of these newcomers are new to technology as well. Their lack of knowledge in technology poses several hindrances for them, and the literature indicates that the mindset of those familiar and unfamiliar with technology are different. As explained by Saputra and Al Siddiq, "The 21st century citizens who are growing with the ease of technology and unlimited digital access have a mindset and action that is different from the previous generation", (p. 159, 2020). This differing mindset and action feeds into the integration process for refugees, making it more difficult to connect with people in their new communities and harder to determine the best mode of applying for a job (online versus in-person). Additionally, refugees who speak English and particularly "those with technical training, have better chances of finding more than low-paid manual jobs, though even with a validated diploma these jobs might not be at the same level as they used to work", (Van Heelsum, p. 2145, 2017).

Digital literacy levels impact the pace and success at which refugees are able to integrate into new society. Various types of technologies and platforms are available, and when it comes to refugees, sometimes it is just a matter of identifying which tools can be utilized in the most impactful way. The literature shows the importance of having a strong network experts,

instructors and volunteers who are passionate about technology and passionate about helping these newcomers in learning technology (Fuchs, 2017). Fuchs explains the ways in which technology is assisting the lives of refugees, even at its most basic level with GPS and Google Maps (2017). This article focuses on the importance of people (experts in technology, teachers and volunteers) collectively helping refugees worldwide, dubbing them the name 'Techfugee', (Fuch, 2017). The inspirational push for entrepreneurs, hackathons and Techfugees instills this idea of collaborative and innovative work in technology to enhance the lives of those displaced (Fuch, 2017). As explained by Fuch, "It's about much more than helping refugees flee whatever card they've been dealt. There are also issues after the fact", (2017). Many refugees reach their new land of opportunity without much knowledge on the next steps, and many are unaware of digital tools that can provide relief to them once they are in Canada. This ties into my research by highlighting the breadth of expert availability in technology that is present to create, market and instill a sense of relief via apps and tools for refugees (Fuchs, 2017). The simplest of tools like GPS and Google Maps can assist in refugees becoming accustomed to their new city, learning where to access the resources they need, and learning how to use public transit if need be.

A key aspect of my research is to highlight and emphasize the importance of technology in our day to day lives, and this impacts newcomers in a segregated way as their struggles can either be lessened or amplified depending on their previous exposure to technology. Refugees migrate to Canada and their level of exposure to technology can vary greatly. Certain applications and tools are created worldwide to help refugees in their migration, some of which are accessible in refugee camps. Frey and Gatzweiler showcase various ways in which technology is being used in the management of humanitarian crises, including eye-scanning for

aid hand-outs, online higher education, and 3D printing to help refugees' access important supplies (and even important medical equipment). This article provides a quick global perspective on the usage of technology to enhance the lives of those displaced, and to fuse innovative solutions with ethics to empower refugees and support vulnerable populations (Frey & Gatzweiler, 2020). The idea of empowerment is a topic I would like to emphasize in my research as well, and Frey and Gatzweiler show the use of technology to empower individuals and help them in getting on their own two feet to create a successful future and gain dignity, as well as a sense of achievement. The key aspect of this literature for my research purposes is to keep note of the various applications that are available to support refugees worldwide. With these tools that have been developed, a question remains whether or not these tools are accessible and if refugees even know that they exist.

An interesting factor that plays into refugee migration is the aspect of intergenerational gaps that are present even within refugee families. The literature shows that not only do refugee children become fluent in the new language faster than adults, but they are also very enthusiastic about learning digital technology (Karam, p. 519, 2018). Language, like technology, has the ability to empower, and the literature shows that language acquisition and learning for children happens at a much faster pace than adult learners (Karam, 2018). The enthusiasm children have in learning technology aids them in their individual resettlement journey.

At the macro-level, technology plays a big role in relocation, integration and identity redevelopment. The literature I have found relating to this theme highlight that digital literacy allows refugees and newcomers to navigate their way through the unstable situation that they find themselves in when newly relocating. Relocation brings with it a new home, a new language, and sometimes requires the development of a new identity. Many newcomers struggle

with keeping old relationships and forming new ones, and this is part of identity construction (Fuchs, 2017). All these facets of the refugee struggle are impacted greatly by technology, enabling the digitization of identity (having online records of birth certificates, IDs, etc.), and meeting other immigrants online using platforms like Facebook and Whatsapp groups. These are a few examples of ways in which refugees are able to feel connected and empowered, enhancing the health and well-being of families new to the community.

Gaps in Integration (including intergenerational, societal and educational gaps in relation to Digital Literacy)

As refugees settle in their new communities, gaps within their integration journey become more and more visible. These gaps include intergenerational gaps, for example, where children are potentially more exposed to other children and teachers that speak English and have access to digital technology like computers or iPads/tablets, versus seniors who may not have this network of community members available. Also included are societal and educational gaps where refugees become subject to further digital divide due to income and/or language illiteracy. In volunteering at the MCHB and UCCA, I noticed that many of the Adult Learners that had children at home had a clear advantage in learning technology because they had children at home who regularly attended school, giving them access to learn and use computers and technology frequently. Abu-Asbah focuses on this aspect of adults attributing greater familiarity of technology with children (2018). Many refugee learners mention the negative emotions tied to not being able to grasp technology at a pace that is as fast as those who are younger children, and children are given more of an opportunity to learn language and technology due to public schools (Van Heelsum, p. 2145, 2017). The intergenerational gap present between children and adult learners that are newcomers to Canada is of great fascination to me as I think there is potential to

hone on the advantage of a 'digital buddy' (being the child in this case) to assist in quicker adaptation with technology. Abu-Asbah takes a look at the digital gap and highlights the switch in the traditional hierarchy of teacher-learner at home (where parents are typically identified as teachers and children as learners, digital learning for newcomers often results in a role reversal in which children become teachers and parents become learners). Duran provides a similar perspective of digital literacy in the study in Karenni refugees, emphasizing the digital divide existing due to socioeconomic hierarchies limiting access to technological and financial resources (2016). Both these articles by Abu-Asbah and Duran allow greater understanding into refugees that come to their new home with a great disadvantage from the onset. Duran also discusses children's experience with technology (with particular focus on video games), going further into depth about how and why the Karenni teenagers use digital literacies, social media platforms and instant messaging/texting (2016).

Blažič and Blažič present a similar research in overcoming the digital divide, differing from Abu-Asbah and Duran by focusing more on elderly adults (2020). This article discusses the difficulties associated with adopting technological skills for the elderly, including fear and refusal to use digital technology (Blažič & Blažič, 2020). Interestingly, the struggles that elderly adults face (as mentioned in this article) resonate similarly to fears and difficulties newcomers face when integrating into a new society. This article does well in not only highlighting those fears, but also providing solutions for overcoming this barrier. As suggested by Blažič et. al, playing interactive games on digital technology platforms can greatly help in overcoming those fears, and this inclusion of games can be a great tool for creating an appealing and easy-to-learn approach to digital technology for newcomers as well. On the other side of the spectrum, Kardes' exploration of digital literacy in early childhood contrasts this attitude that Blažič et. al present

regarding the elderly. As immigrant students of a younger age integrate in their elementary

schools, they grow in their learning of digital technology at a much faster pace, and this can

actually be valuable in the learning curve of the parents and grandparents as well because they

have someone at home who is able to assist in the technological terrain (Kardes, 2020). Corbett

et. al's article on the RAND Blog is another resource that provides an insightful perspective on

the collaboration between refugees, host communities and other actors required to empower

newcomers and create supportive environments (2017). Corbett et. al successfully highlight the

gap in innovations that respond to long-term displacement, partly due to the services and

supports host countries have. Where Blažič et. al and Abu-Asbah's research identify a set of gaps

that refugees may previously come to their new homeland with (low income status,

language/digital illiteracy, and low level of education), I appreciate Corbett et. al's for

highlighting the role of host countries and how their support can greatly help reduce the gaps in

integration (2017). Culbertson et. al also discusses the role of host countries and the need to

effectively deploy and scale solutions in a way that allows them to be maintainable in the long

run, including an improvement to the process and collective culture of newcomers (2019).Within

the book, a couple chapters stand out as being most relevant to the topic I am exploring, being:

Structure of Refugee Education and Considerations for Social Cohesion, and Quality of

Education for Refugees. Culbertson's explanation of the seven models of education for refugees

is a great example of a tool that can be adopted by educational program planners here in

Edmonton (especially the focus on instructional time/crowding affect on educational quality, and

strategic support for teachers with refugees in their classrooms), (Culbertson, 2015, p. 49). Both

Culbertson et. al and Corbett et. al emphasize the ever-changing role and responsibilities of

refugees, aid organizations, and technology developers in creating innovative support tools for

refugees and newcomers. Together, these resources offer a wide variety of points to consider in terms of refugee perspectives on technology, business models for developing and deploying technology in refugee settings and ethical/security/privacy issues related to the use of technology in refugee settings.

One of the key points that reoccurs is the idea for agencies to invest in internet connectivity (rather than apps for refugees), as inconsistent internet access greatly hinders their integration. Gallagher et. al explore two main research questions: what are the at-home resources families use to support their children in literacy acquisition and learning, and how can parents of English learners be supported holistically to access and use literacy learning tools in their homes (2019). This idea of digital practice being integrated not only into society but within home domains is of particular interest to me as refugees may have many variables when it comes to the issues of digital literacy and the conditions for living. If successful immersion into a new society means refugees must fully engage with digital technologies, then it will be interesting to learn in my own research how many families have adopted digital technologies for their children and what kind of digital tools they are using to support them.

Mental health and post-migration stress is a topic that other resources within my literature review journey have neglected. Mikal et. al highlights the tough adjustment obstacles that refugees face when migrating to a new home and the continued exposure to post-migration stressors that can significantly impact physical and mental health. This research is informative in explaining the collaborative support available online for refugees, whilst outlining the lack of engagement by refugees (sometimes simply due to no physical access of a computer/internet), and this is an area that can be of great benefit to agencies as they can provide guidance and resources to promote pathways of independence and community building in the refugee

population. Agencies like the Multicultural Health Broker society provide support to newcomers, and their holistic support system also includes this aspect of mental and physical health support.

As refugees relocate, the next obstacle many of them face is gaining employment so that they can begin standing on their own two feet. Pearcy provides a thought-provoking perspective on immigrant struggle and refugee integration, specifically obstacles in landing a job as a refugee (2019). Refugees are highly skilled and yet struggle in their job hunt when trying to rebuild their new life. In my research, I will be incorporating the issues related to job search for migrants (including lack of digital literacy, lack of understanding about the working culture, and job types that are available by host countries). In today's age, there is a new gap that must be highlighted, hindering the success of integration for newcomers. Smyth's article explores the ways in which COVID-19 has impacted refugee resettlement and integration into a new society for newcomers. In terms of my research, this was not a topic I initially considered incorporating, however it is very relevant and I believe that learning more about refugee struggle in today's day and age is what will provide the most valuable and implementable solutions. Smyth discusses the loss of normality which affects newcomers doubly (new home and a pandemic to stress about), and examining this further can facilitate discussion of technological tools to assist mental and physical health (2020). Combining Pearcy's perspective on job-hunting and Smyth's discussion on the impact COVID-19 has had, I intend to research on the ways in which agencies are working to provide support for refugees in their job search in the midst of the pandemic.

To conclude the discussion on the gaps in integration, I would like to highlight the cultural gap that exists between the West and the East in relation to individuality, self-expression and learning. Traxler explores the Palestinian refugee community and digital literacy, especially focusing on attitudes to digital literacy (2018). For my capstone research, I am keen on capturing

the refugee perspective and values, and watching that merge with digital technology would be an educational experience for myself. Traxler's focus on European versus Arab standards of achievement, and attempt to bridge what is provided by educational systems and what is needed by newcomers and their communities is a valuable insight that can help in developing tools that enhance newcomers' lives (2018).

Sharing Refugee Experiences with Technology

Using the stories and narratives of families, I intend for my research to highlight the struggles associated with their journey of adopting technology. Anderson et. al present their findings from the global literacy project, Critical Connections: Multilingual Digital Storytelling (MDST), in which there is great emphasis on storytelling and the idea of collaboration available via digital mediums (2018). Their work on Critical Connections "recognizes that every language is a distinct medium with its own expressive resources, its own palette of colours, its own sounds and rhythms, all shaped by and representing history, culture, values and beliefs", (Anderson et. al, 2018, p. 195). In their article, their main argument is that more attention needs to be given to the multilingual dimension within multiliteracies research (Anderson et. al, 2018, p. 197). In this ethnographic approach, they explore the significance of digital storytelling for young people and their learning. My research adopts the methodology of focus groups, however, in formulating my questions I ensured that questions remained open-ended to allow room for that storytelling aspect.

Similarly, Emert's article on Digital Storytelling focuses on literacy initiative for multilingual refugee boys who resettled from Africa and Asia to the USA. Compared to Anderson's global literacy project to strengthen and empower the individual, Emert's focus is on storytelling in order to grow academic confidence. The key factor is this idea of hearing the

participant's voice in order to empower, and allowing the individual themselves to express their own strengths and areas they would like to improve. Gallagher et. al provide a holistic exploration of literacy learning tools within the home domain. This study is done similar to Emert and Anderson by focusing on the refugee perspective to identify what technology/equipment they currently have in their homes, and what is lacking (2019).

In the literature, there is constantly a focus on hearing from the perspective of the participant. An interesting methodology I came across in my literature search included Matlin's research project called First Photo Here (2020). This is a curated collection of the first photos new arrivals to Canada shared with friends and family back home. Similar to Emert and Anderson's storytelling approach, Matlin focuses on photo sharing as a way to story-tell, where individuals share their own stories to compile a collective story of immigrant perspective and experience. Traxler et. al adopt a qualitative research via focus groups to capture Palestinian teachers' experiences and their response to digital adoption. Thompson et. al use a similar methodology of semi-structured interviews to obtain narratives of women who use technology in their daily work life, (2020). In my own research, I aim to be able to capture the perspectives on resettlement from the participants themselves.

Barriers to Success

As part of my research, I intend to highlight the barriers to success that are present for refugees after migrating to Canada, including poor quality information, disparity between refugees that are online and offline, and how resources in the host land of refugees can be best utilized to assist in integration. Benton's article on Digital Litter explores the dangers of poor-quality information that is spread online through digital tools and platforms that can greatly undermine refugee and migrant decision-making (2019). As explained by Benton, "Ghost

websites, outdated information, and broken links can be thought of as the 'digital litter' of the

Internet", (2019). In determining the barriers to success, the literature shows that many refugees

are not equipped with the knowledge to identify digital litter (Benton, 2019). Refugees rely on

accurate information to help them in migration, resettlement, job opportunities, and community

resources. The literature highlights the importance for societies to consider how best to tailor

information to people who have limited institutional knowledge (Benton, 2019). There is a

plethora of technological applications that have been created to facilitate refugees, however, the

literature suggests that this might not be the best response in refugee crisis. Mason's article on

the Failings of Refugee Tech highlights that we as innovator are 1) building too many things and

2) building things that are never used (2018). This is an important discussion that I aim to

include in my research as it is vital that the tools and resources being created or utilized for

refugees are accessible and frequently used. Without a substantial amount of users on these

platforms made for refugees, the resource/platform/app will simply fail at providing the support

that is intended.

As a solution to Mason and Benton's discussions on the problems, Culbertson et. al and

Corbett et. al (previously discussed in the Gaps in Integration section), present a finding that ties

well here, and that is for agencies to invest in internet connectivity (rather than apps and new

tools for refugees), as inconsistent internet access greatly hinders their integration. There is an

apparent digital divide that exists between countries and within societies. As Capgemini

Consulting's research highlights, 40% of the world's population still remains offline (2019). In a

society where we all seem to be fully integrated into the technological world, there still exists a

very stark disparity between those online and offline. Even on the topic of job hunting, refugees

may be highly skilled, but we live in a world where job applications are submitted online and

educational classes are virtual (partly due to COVID-19), and refugees without internet access are left with no platform to get started at rebuilding their new life (Pearcy, 2019). In order to support vulnerable groups in progression towards digital society, access to the internet is key.

Howell and West's article explores the idea of the internet being a human right in today's technological era (2016). It is a thought-provoking idea, as a large portion of the world lacks access to a computer, and yet the pathway to the future seems to become more and more associated with a technological world. This article takes a strong stance on a global and open internet for all, and this ties in extremely well with my research as refugees and newcomers that have already migrated to new societies must have sustainable internet access for successful integration and resettlement (Howell & West, 2016). Additionally, it is vital to emphasize that the frequency and habit of using digital media can greatly assist in how fast students show improvement, emphasizing the need for accessibility (Setiyadi & Hersulastuti, 2020). There is a clear improvement in comprehension and digital literacy/familiarity with regular use of the digital tools.

In addition to have the right technological resources, the literature shows that it is equally important to have access to professionals (teachers and instructors) that are able to provide support to these digital learners, and to provide these professionals with the necessary supports (Quaicoe and Pata, p. 4091, 2020). Without providing educational teachers of digital learners with lifelong professional technological learning, refugees struggle even more as they do not have the right support by their side.

Digital Security

Digital security is an area within my research that I would like to expand on, in particular the roles of digital security in identification and decision-making when using the Internet. In

regard to decision-making on the World Wide Web, refugees need to be made aware that just because something is on the internet, it is not necessarily true or safe. Benton mentions the dangers of poor-quality information available online (2019). Brietlinger et. al expand on this discussion by exploring user security and education on smartphones, with a focus on user cybersecurity familiarity and education (2020). This is an informative article that can be of great value in curriculum development of best practices for security in digital technology, and in my work volunteering at MCHB and UCCA, I found that many newcomers are unfamiliar with phone security and a general awareness of what information can be put on your phone, and what should be avoided (i.e. storing SIN number in Notes, or passwords shared via E-Mail). An interesting result that Breitinger et. al share is that education of higher security familiarity does not necessarily solve the issue of weak practice in this domain, rather having default settings that ensure greater security and easier to use security options is what is required.

While it is important to create tools and teach refugees the importance of digital safety, it is important to stress that teachers of digital learners must be competent in digital safety, e-threats and privacy/copyright knowledge. Brietlinger et. al's article stresses familiarity and education on part of the digital learner, and contrastingly, Tomczyk's article stresses teachers' familiarity and knowledge in addition to digital learners (2019). This is an interesting research piece as I would like to explore the ways in which teachers are able to assist those who are very unfamiliar with technology, and curriculum development on areas such as e-threats, cyberbullying and safety online. Many newcomers are unaware with the technological terrain of safety and privacy, and it is incredibly important to raise awareness amongst teachers to provide focused learning about the online threats to ensure a safe environment for newcomers.

Optimizing Digital Technology for Vulnerable Populations

Technology has the ability to revolutionize refugee resettlement. Calamur's article examines an algorithm-based software approach (called 'Annie') for selecting and allocating refugees in their new homes, versus the typical selection of refugees based largely on local capacity (2019). Using data to inform decision making for refugee allocation can greatly facilitate in a refugee's integration into the new society as it looks at variables including skills, language, and other discrete information (Calamur, 2019). The limitations on this in the literature is that there has not been much collected evidence to support its success and efficiency (Calamur, 2019). Similarly, Tali's article on the transformative technology of AI to provide philanthropic support to those who are displaced is an innovative idea with limited evidence (2018). Technology that provides psychological support for refugees is an area that the research world currently lacks in, and Tali explores this idea of an intelligent chat box that offers personalized messaging for refugees. Another resource with an innovative idea, yet limited factual evidence is Ruhil's discussion on Big Data. Big Data can be used to predict future influx and potentially assist in redirecting refugees to different countries to prevent overcrowded camps (2019). Migration statistics inform migration policies, and identifying migration trends can help in establishing systems of support in areas that need it most (Ruhil, 2019).

Although technology does not solve the number of migrants that are displaced, it does provide refugees with stability, freedom to organize and fend for themselves. Apps such as Refugee InfoHub, What3Words, and RefugeeOnRails are identified within Khalaf's article on the ways in which technology has enhanced the safety of those displaced (2016). Donahue also discusses a refugee central app, called Kindi, which is helping Syrian refugees to learn how to read (2018). An idea as simple as having an application that allows children to virtually read a

bedtime story with someone across the world is simplistic, yet extremely efficient and collaborative with a lasting impact. Tools like the ones Khalaf and Donahue discuss are what I would like to hear more about from the participants in my study. Their exposure to these applications and whether they use them frequently are of interest to me. The drawbacks of apps like the ones Khalaf and Donahue mention is that there is the possibility of not much traction being on them (if only a handful of people are using them, it hinders in connection and engagement that is crucial in building networks). If this is the case, I would like to bring to the forefront what refugees actually want from these apps, and identify what skills and accessibility would they like in terms of digital training and literacy. Dahya's landscape review emphasizes the importance of peer-to-peer learning and I like the suggestion of building innovative solutions on pre-existing educational resources, like Wikipedia, Khan Academy, MIT Open Courseware, (Dahya, 2016). These tools are extremely beneficial in their low-cost requirements and opportunity for rapid expansion. Conflict-sensitive education comes with a great deal for educational program planners and host communities to consider, in particular the importance of ensuring the access to new tools are inclusive and sustainable. This research is valuable in its insights and recommendations on efficient technology usage, procurement of technological tools and educational resources, and review of the positive and negative impacts of ICT-integrated programs for education in conflict and crisis. Similar to Dahya's review of widely available platforms, Dasuki and Abubakar explore the platform Whatsapp and its contributions to displaced persons. Tools like Whatsapp and Facebook Messenger are greatly used by newcomers and refugees to maintain old relationships and form new ones in their new home (Dasuki & Abubaker, 2019). Google Translate is another tool that is widely known and accessible to those with a computer or smartphone. Vollmer's research on Syrian newcomers and their digital

literacy practices discusses the idea of smartphone facilitation in language acquisition, using

Google Translate, and discusses its ease in accessibility and success (2017). In comparison to

Khalaf and Donahue's suggestions of tools that are central to refugees, Dahya, Vollmer and

Dasuki et. al's more inclusive approach could serve to be more valuable for digital learners.

Tools that assist in connectivity and bridging gaps of segregation amongst the refugee population

are ultimately going to be most successful in increasing confidence and familiarity.

In searching for tools that can be used to optimize learning for children, Carlson and Dahan

Golan et. al both present papers highlighting the aspect of student-centred learning. Carlson's

paper on using technology to deliver educational services is a thorough compilation of case

studies of technology-supported interventions that are able to facilitate educational services for

refugee children and youth (2013). As my own research looks to work collaboratively with

education program planners (with a focus on cost-effectiveness, sustainability and increased

learning), this resource is especially informative in examining educational technology programs

that involve mobile phone-based delivery and internet computer labs (while also giving focus to

employment-focused training).

Summary of the Literature

The findings of the literature indicate that digital literacy has a significant impact on

the resettlement journey of refugees and newcomers. Refugees coming with knowledge of

English and digital training are more likely to find employment faster, and be paid more than

refugees coming with no digital training (Van Heelsum, p. 2145, 2017). An important factor

that is evident from the literature review is the importance of directly connecting with the

refugee learners in determining the resources they need for their success. There is an

abundance of resources created to facilitate the move and integration of refugees, however it

is essential to determine from the refugees themselves what their areas of weakness are and

where they would like to improve in their digital literacy journey. The literature notes that

applications like Whatsapp, Facebook Messenger and Google Translate are more readily

used (Dasuki & Abubaker, 2019). The literature shows that with the emergence of new jobs,

there is a demand for new competencies as well, and newcomers do not have the support

needed to help them gain those competencies (Saputra and Al Siddiq 2020). This greatly

hinders their success and integration into the new society. Additionally, refugees' exposure

to technology prior to coming to Canada will vary. Some refugees have had more exposure

in their home country than others, some may have been introduced to mobile phones in

refugee camps, and some may see a TV for the first time when landing in Canada.

The literature shows that there are evident gaps between the paces of learning for

refugee children versus refugee adults. Children have more opportunities for digital literacy

learning because they can go to public schools and be in an immersive environment where

technology is taught (Karam, p. 520, 2018). Adults that are newcomers do not have this

access. Additionally, there is emphasis on having a strong network of experts, instructors and

volunteers who are passionate about technology and passionate about helping these

newcomers in learning technology (Fuchs, 2017). Having a strong network of supports will

allow for faster learning of digital training, reduced level of isolation, and will facilitate in

the identity reconstruction of these newcomers (Saputra and Al Siddiq, p. 159, 2020).

The literature indicates that digital illiteracy and barriers in communicating in the

language of the new country for refugees can pose certain frustrations (Van Heelsum, p.

2145, 2017). This can include frustrations within the family of the refugee. The

intergenerational gap present between children and adult learners can cause disconnect and

highlights the importance of the refugee family and support system to work together in

building digital learners. Refugees come to Canada having faced trauma, and the fears of integration can be high especially when our Canadian society is extremely advanced in its technological realm in comparison to many underdeveloped countries. While refugees come to a safe place of refuge, they can at many times feel isolated (Ng & Zhang, p. 4, 2021). Digital literacy has the ability to help create new connections and maintain old ones (Matlin, 2020). Additionally, digital literacy has the ability to empower individuals, allowing refugees to look towards a successful future, gain dignity and a sense of accomplishment (Frey & Gatzweiler, 2020)

The literature I have reviewed stresses the importance of learner-centred tools and technology, curated to the migrant experience. Working collaboratively with refugees and teachers of digital learners, I aim to identify learner-centered supports and further contribute to the knowledge in this area of migrant study with the following research questions:

RQ1: How does digital literacy affect the integration of refugees in Canada?

RQ2: How can digital technologies be used to assist refugees in overcoming gaps in education, employment and developing support systems?

The subsequent chapter will discuss my research design and methodology, sampling strategy, and data collection process used for this capstone project to answer the above research questions.

Research Design and Methodology

Introduction

As refugees come to Canada and begin their journey to create a new home, they find themselves in a situation where technology can become either a relief or a massive hurdle in their societal integration. Technology has paved the way for simple communication - and yet, the digital divide between those who are familiar with technology and those who are not familiar is very prominent. Digital immigrants face challenges in societal integration as there is such a great push for transferring communication into virtual platforms, especially during the COVID-19 pandemic (Lin & Johnson, 2021, p. 1). For someone who may even be illiterate in their own mother tongue to learn a new language, such as English, and then to also become educated in navigating the World Wide Web can be overwhelming. Nowadays, technology has become the standard for many tasks that used to be done in person, for example, applying for jobs. Refugees and newcomers struggle with finding employment as they are unfamiliar with many technological advances in recruitment practices as "companies are increasingly moving toward the use of web-based hiring practices" (Novak, 2016, p.293). The digital divide sometimes exists even within a family household of parents and children, a point emphasized by researchers highlighting children as "digital natives" and parents as "digital immigrants" (Abu-Asbah, 2018, p. 2991). Immigrants with little to no experience with technology can be put at a great disadvantage here due to their lack of familiarity with a keyboard, screen and a mouse, even if the job requirements are tasks they could do with relative ease.

As individual learners who have their own unique individual experiences, it is essential to determine what impacts technology can have (and has already had) on the refugee experience in order to make it better. For educators and students, a common understanding of the struggles refugees may face, and the successes they have had with technology can help in bettering their experience with learning as we create tools and curriculum to ease the transition into a foreign society.

This research paper aims to answer the research questions: how can digital technologies be used to deliver optimal learning and support for refugees and newcomers in order to facilitate integration, and assist them in overcoming existing gaps in education, socioeconomic status, and identity reconstruction?

This chapter is divided into the following 7 sections that will help to explain the design of my research: design, participants, setting, instrument, procedures, analysis and summary. I will discuss the logic behind using the case study design, as well as the criteria being used to determine who will be participating in my research. This will lead into a discussion on the procedures, listing the steps I took in my study and any challenges I faced. This follows into the analysis section in which I walk through the process I used to examine the data collected.

As part of the research process, I purposefully sampled 32 refugees enrolled in two digital literacy programs using resources such as the Multicultural Health Broker Society Edmonton (MCHB) and United Cultures of Canada Association (UCCA) to understand the dynamics at play for societal integration with digital technology. My research populations included adult refugee learners, adolescent refugee learners, and digital educators/teachers.

The MCHB offers a program called Digital Literacy for Employment. Similarly, the UCCA offers a digital training program for men and women to assist in technological learning and building basic computer skills. I had the opportunity to volunteer at both the MCHB Digital Literacy for Employment class and the UCCA Digital Literacy class to build a relationship with the refugee learners and gain a better understanding of their level of language and digital literacy. By using a case study research approach, I conducted a focus group conversation with two cohorts, one at MCHB and one at UCCA, to generate an in-depth, multi-faceted understanding of the experiences with digital literacy from the perspective of the refugee students.

These learners were nearing the end of their digital literacy training where they had the opportunity to learn basic digital literacy training, alongside fellow newcomers. The focus groups allowed me to gain a deeper understanding of the experiences and stories of individual newcomers. The discussion focused on experiences with digital literacy, exposure to technology prior to migrating to Canada, experience with technology after migration, exposure of technology within the household, and journey in digital literacy with respective educational training (UCCA or MCHB). Using the data obtained from the participants' responses, I conducted a content analysis to examine patterns, similar struggles, and resolutions.

Design

In order to answer the research questions, this research paper used a qualitative method in a case study approach. My research is focused on spotlighting the instances of refugee resettlement struggles with the participants at MCHB and UCCA, two distinct organizations within Edmonton, Alberta. With the spotlight focused on these individual

instances (rather than a wide spectrum), I am able to bring a more in-depth study focused on relationships and processes, (Denscombe, p. 53, 2010). As explained by Denscombe, "When a researcher takes the strategic decision to devote all his or her efforts to researching just one instance, there is far greater opportunity to delve into things in more detail and discover things that might not have become apparent through more superficial research," (p. 53, 2010). These participants have all experienced some level of trauma as they left their war-stricken, underdeveloped home countries, and they all have had major life transitions by moving to Canada and adjusting to a new life here. I wanted to understand the various parts of the resettlement process that tie in directly to communication and technology for these newcomers. In trying to understand the interconnectedness of the various parts, the case study approach allowed me to unravel the complexities. The struggle in resettling and learning a new language and technology is not a new experiment - this phenomenon has existed, and will continue to exist as more refugees and newcomers migrate. With the case study approach, I was able to go into a deeper search with my two selected cohorts, as well as be able to gain a holistic view in exploring the key shared issues for newcomers in digital literacy training.

Using the pool of learners in MCHB and UCCA's digital literacy initiatives, participants were notified that there is an opportunity to participate in a focus group to discuss their experience with migration and digital literacy training. As explained by Denscombe, "focus groups consist of small groups of people who are brought together by a 'moderator' (the researcher) to explore attitudes and perceptions, feelings and ideas about a specific topic", (p. 177, 2010). A struggle many researchers find with focus groups is the limitation on how many people are able to attend (due to organizing a venue for the meeting,

funding travel, etc.), however, due to the fact that my interviews were held during class time for the participants and were on a virtual platform, this was not a hurdle in my research (Denscombe, p. 177, 2010). The participants in the focus groups have shared lived experience on migrating to Canada and struggling with communication and technology. I facilitated the focus group interaction by planning and preparing for the interviews. I developed a framework of questions that I walked through with the participants to gather their perspective on topics that would inform my research question. The interview questions I prepared were consistent for both focus groups conducted, (at MCHB and UCCA).

The purpose of this research was to identify ways in which digital technologies can be optimized to create a supportive and successful learning trajectory for newcomers and refugees. I opted for developing interview questions prior to the focus group (rather than letting it be an unstructured interview) to gather data as it allowed me to gain a greater understanding from the perspectives of the refugees, as well as be able to facilitate the conversation with the objective of my research question. In developing my interview questions, I gathered feedback from instructors at both UCCA and MCHB. Based on the discussions held with them, I allowed for discussions within the focus group to have their own ebb and flow as well, and not entirely focus on progressing through the interview questions as originally laid out. The focus group itself had qualities of a semi-structured interview. As Galletta (2002) explains in her book, "Characteristic of its unique flexibility, the semi-structured interview is sufficiently structured to address specific dimensions of research, while also leaving space for study participants to offer new meanings to the topic of study", (p. 2). Through a qualitative interview, I was able to understand the struggles of the participants in their everyday life and their first-hand experiences integrating into

Canadian society. Gavora explains the focus group interview as a research method based on interaction between participants (p. 11, 2015). Conducting the interview in a focus group setting was advantageous as it allowed the refugees to build upon the shared experiences from one another. Further, "each turn [within the focus group interview] responds to a preceding turn", in that it is responding to a previous account of information or it is taking the information to a new direction, (Gavora, p. 12, 2015). Additionally, as many of them struggle with English literacy and speaking, it greatly helped in having the shared discussion as they were able to provide more insightful feedback in the collective gathering.

Focusing on adopting an appreciative inquiry framework, my interview questions were created in a way to ensure that positive experiences were highlighted and participants had the opportunity to share golden moments in their journey, not only in their digital learning but also in their societal integration. As explained by Palermo et. al (2012), "appreciative inquiry (AI) is an approach of discovering, understanding and nurturing ideas in communities through the gathering of positive stories, interactions and collaborative design processes for ways forward", (p.11). Refugees and newcomers to Canada migrate having faced various struggles that have pushed them to leaving their home country for a chance at a better life here. This is not a small life transition, and is often a forced flee from areas of conflict and war leaving many of these refugees feeling isolated, under high stress and falling into poorer mental health outcomes (Ng & Zhang, p. 4, 2021). The focus of appreciative inquiry is to hone in the positive stories, interactions and working collaboratively as we move forward. A concept that both MCHB and UCCA have present within their cohorts is the idea of being hand-in-hand with these newcomers as they integrate into their new society. In designing my interview questions and conducting my research, I

wanted to adopt this appreciative inquiry approach by focusing on the aspects of connection (connecting with family back home and making a new support system here in Canada), and having motivating and inspiring goals to look forward to in their resettlement journey (by asking where would you like to be 5 years from now?), (Palermo, p. 11, 2012). As I focused on the strengths that these newcomers presented, it allowed for more open and interactive communication.

In addition to using focus groups, I, as the researcher, will also partook in participant observation. During my volunteer sessions building up to the focus group, as well as during the focus group session, I observed the students enrolled in the courses and actively participated in the classes by offering support to the students where needed - this included helping the students complete their assignments on their computer/laptop (during class time) and practice typing. I observed the participants (newcomers/refugees and instructor) in their class sessions for my research to gain a better understanding of the struggles and areas of weakness for these immigrant learners, as well as the instructor to gain a better understanding of the expert manner in which to deliver educational training. As Denscombe explains, "the success of participant observation depends on being able to walk a tightrope between the involvement and passion associated with full participation and the cool detachment associated with research observation," (p. 212, 2010). While partaking in participant observation, it was crucial for me to not lose sight of why I was helping these learners, and maintain a certain detachment that allowed me to act as an observer and as a helper in the class at the same time.

Participants

The participants in this study included refugee learners enrolled in digital literacy courses offered by the Multicultural Health Broker Society (enrolled in the Digital Literacy for Employment Program) and United Cultures of Canada Association (enrolled in the Digital Literacy Computer Class). From these participants, 9 were from MCHB (all women), 12 from UCCA's Cohort for Men, 11 from UCCA's Cohort for Women. For my research, I conducted one focus group at MCHB and one focus group at UCCA (with both the men's and women's cohorts combined in the virtual session). Additionally, an instructor was present in each of these focus groups. The instructor and myself were in close communication throughout the development of these questions to ensure that the questions being asked were appropriate, and word-sensitive (no complicated terms, easy to follow and easy to respond to).

For my research project, I had a total of 32 participants take part in the focus group. To partake in the research study, individuals had to meet the following inclusion criteria:

1. Recently migrated to Edmonton, Alberta

2. Above the age of 18

3. Enrolled in, (or recently completed) a digital literacy initiative provided by the Multicultural Health Broker Society or United Cultures of Canada Association

4. Willing to take part in the focus group interview

As this study is focused on refugees and their experience with digital literacy and technology, the participants in my study needed to be enrolled in a program that delivers digital literacy training. Mixed gender responses allowed for me to gain insight from

differing perspectives and experiences related to migration and resettlement. The MCHB cohort was predominantly single mothers, and the digital training focused on providing these single mothers with digital training that can allow them to gain employment in fields such as retail, fast food restaurants, cleaning/housekeeping jobs, etc. The UCCA cohort provided digital training to both men and women to teach them basics of computer use, writing and replying to emails, creating presentations and posters, and practicing typing.

As I had been volunteering at both MCHB and UCCA in their digital literacy training classes, I was able to create a friendly and collaborative relationship with all of the participants that were in the target population. Prior to conducting the interviews, I was aware that these individuals had lived experiences that were very different from non-refugees and non-immigrants, and they had low English writing/comprehension (sometimes even being illiterate in their mother tongue), and/or low computer skills.

Participants were explained during class time, roughly three weeks in advance to the scheduled focus group session(s), that there will be the opportunity to take part in a focus group and if they would like to participate, they can fill out the consent form and send it back to me via email. Students also had the opportunity to fill out consent forms online during class time in case they had any issues or questions for me or for the instructor.

Setting

Due to COVID-19 being a factor in preventing in-person classes, both focus groups at MCHB and UCCA were conducted virtually. Both focus group interviews were held on the virtual platform, Zoom, with all participants having the ability to use a video camera and microphone. With the MCHB cohort meeting weekly, the Zoom session was scheduled

during class time and the focus group session spanned over two classes. UCCA also meets

weekly, however their regular ongoing classes for men and women typically take place at

different times. For the purposes of the focus group, the men and women's cohort was

combined virtually on Zoom for two classes. The focus groups were recorded with the

permission of the participants. Some participants opted to leave their cameras off, while

others remained on screen for the entire focus group session.

As discussed by Denscombe, there are best practices involved with conducting

virtual interviews, and I incorporated these into my focus groups. With virtual interviews,

"their [interviewees] perception of the person who is collecting the data can influence their

willingness to divulge information", (p. 178, 2010). In good practice, it is important to be

aware of the "interviewer effect", and to keep in mind the educational and social status, age

gap, and various ethnic groups of those being interviewed (Denscombe, p. 180, 2010). I

presented myself in a neutral way, remained courteous throughout my volunteering sessions,

and kept a neutral position throughout the focus group sessions.

Instrument

I created interview questions for the focus groups in order to facilitate discussion

(Appendix A). As explained by Cheng, questionnaire design for focus group interviews

should comply with principles including: having clear and simple questions and having

open-ended questions, (p. 196, 2007). Including principles of the types of questions, the

researcher must also consider the sequence of questions. Ideally, this should provide an

opening, introductory questions, transfer questions, key questions, specific questions and

closing questions, (Cheng, p. 196, 2007). In designing the questions for my focus group, I

followed this logic in developing a sequence of questions. My research question is focused

on identifying the ways in which organizations like MCHB and UCCA can assist newcomers in overcoming existing gaps in education, socioeconomic status and identity reconstruction. Including this, I would like for my research to give insight on how digital technologies can be used to deliver optimal learning and support for refugees and newcomers in order to facilitate integration. I developed 3 key questions tying directly to the previous technological exposure, the integration process, and digital literacy training. Cushioning these key questions, I developed introductory questions, transfer questions between each 'topic' I included in my questionnaire, and closing questions. Transfer questions included the exploration of family dynamics, and how potentially having younger family members may influence the rate at which individuals become familiar with technology. Closing questions included evaluative questions on the digital literacy program, and future goals for the participants as they advance in their digital literacy training. Cheng explains that in sequencing questions in this way, the questionnaire structure will be in a funneled shape, allowing the researcher to obtain the personal perspectives of each participant, (p. 197, 2007). Additionally, in using open-ended questions, I noticed that participants were able to express their responses more freely. This aided in building up on responses as other participants agreed, or presented their own thoughts and experiences. Using this data collection method was best suited for this study as it allowed for each participant's perspective to be captured and shared, and where it was necessary for me to gain clarification, I had the opportunity to do that as well.

As many of the participants that I was interviewing were not completely fluent in English, I wanted to make the process of gathering their thoughts and experiences as simple for them as possible. In order to facilitate comprehension, the questions were written simply

and in plain language. During the focus group sessions, the instructor at UCCA was often able to serve as a translator (when needed) for many of the students when going through the questionnaire. Additionally, both cohorts typically had more than one participant that spoke the same language, and according to the instructors, this is done intentionally when enrolling the students into the digital literacy program in order to develop a 'buddy system' of learning. In three instances during the focus group sessions, I noticed that one student stronger in English comprehension than the other of the same language would help in explaining the question in the mother tongue.

Some examples of questions in the interview are as follows:

1. Introductory Questions:

    a) What is your mother tongue?

    b) What is your level of education?

2. Transfer Questions:

    a) Tell me about yourself and your experience with technology and English communication in your homeland

    b) Did you feel a shift in the level of technology used in Canada versus your home country?

    c) Does technology help you keep good communication with your friends and family back home?

    d) Were there any technological platforms you were familiar with back home? (Whatsapp, Facebook, Twitter, Google Maps, etc.)

3. Key Questions:

    a) Describe your experience with computers and mobile phones in your home country.

    b) Describe your level of literacy in your mother language, and your exposure to the English language before moving to Canada.

    c) Were there any technological platforms you were familiar with back home? (Whatsapp, Facebook, Twitter, Google Maps, etc.)

    d) What do you want to improve on the most?

4. Closing Questions:

    a) Where would you like to be 5 years from now in your technology journey?

These are examples of questions that were used in my focus groups that allowed me to gain a more comprehensive understanding of the barriers that exist for refugee resettlement and digital literacy. The questions were segmented into Preamble/Introduction, Overview of the Participant, Integration, Digital Literacy Training, and Building Blocks (Appendix A).

Procedures

This study began by planning and connecting with the Multicultural Health Broker Society and the United Cultures of Canada Association and explaining my research interests. After finalizing my research question, I submitted my research ethics application to the University of Alberta and gained approval from the University of Alberta. I began volunteering weekly at both the MCHB and UCCA, and established a strong rapport with the participants. At the start of my volunteer work, I developed a short presentation about my research to present to participants so that they understood my research objectives and why their involvement would be impactful. This was beneficial as they knew my role from the very beginning of my involvement with them as a volunteer. I developed interview questions based on my

involvement in both digital literacy programs and my literature review, and I shared these questions with the instructors. Nearing the halfway point of the participants' digital literacy courses, I distributed the consent forms to all the participants informing them that the focus groups will take place during the next class. All participants were given my contact information, including email address, mobile number and Whatsapp contact (as many of them are familiar with Whatsapp as a platform). This was done so that they may contact me for any clarification or questions regarding the research before they agreed to participate in the focus group, as well as ensuring that their anonymity and confidentiality were protected. After receiving the consent forms, I conducted the focus group with MCHB and UCCA, recorded the sessions, and created field notes during the focus group.

In conducting the interviews, I experienced some anticipated and unanticipated challenges that were to happen due to the nature of the virtual interviews. With many of the participants within both cohorts at UCCA and MCHB, many participants during the virtual classes would have their cameras off. This was the case during majority of the classes held virtually, and during the focus groups this remained as a factor. Sometimes students would only turn their cameras on if it were there turn to speak, and other times they would have their cameras off entirely. This did not impact the quoting and verbal responses I gathered from the participants, however, in coding non-verbal cues this hindered my data collection. Additionally, the focus group sessions ran a longer duration than I originally expected. In creating the focus group questionnaire, I had initially set out with a plan to conduct the focus group within one class session, however this extended to two full classes. This was the case with both digital literacy classes at MCHB and UCCA.

Analysis

During the focus group sessions I facilitated, I applied the concept of live coding described by Parameswaran et. al. Live-coding entails having a semi-structured interview protocol that can serve as "initial coding schema/themes for the coding process", (Parameswaran et. al, p. 636, 2020). On a Microsoft Word document, I created a table with rows that included a column titled 'Question' (to be populated with questions from my questionnaire), a column for 'Time Stamp', 'Participant Quotes', 'Non-Verbal Cues', and 'Initial Themes'. This method of coding is illustrated by Parameswaran et. al, and I adopted this method for my focus group as it allowed me to identify specific parts of the interview that may have particularly stood out. I wanted to capture the participants' experiences and perspectives in their truest form, and by including participant quotes and non-verbal cues (like expressions including nodding, emphasizing certain words, frustration, etc.), it made the reflection process of reviewing the notes and transcribing them a lot simpler. Additionally, it allowed me to gather a more comprehensive coding summary. After the focus group sessions had completed and I had my notes from the sessions, I went back to the live-coding table and re-coded while watching the recordings. As Saldana (2008) explains, "the majority of qualitative researchers will code their data both during and after collection as an analytic tactic, for coding is analysis", (p. 7). This was a lengthier process (3 hours) as I re-watched the recording and added in more themes that emerged and more quotes that I was unable to capture during the focus group in real-time. This process of revisiting the table that I had created and identifying emerging themes and analyzing responses allowed me to make greater meaning of the data, and helped in offering greater context to the words of the participants, (Parameswaran et. a, p. 640, 2020).

After conducting the focus groups, I created an excel document with a list of all the participants with a number assigned to them within their designated program (Participant 1 from MCHB would be labelled Participant M1, and Participant 1 from UCCA would be labelled Participant U1). This helped me in organizing responses and quotes that I could use within my findings. Throughout my time volunteering with MCHB and UCCA, I created journal entries that I updated with my experience volunteering weekly. Using the recordings from the focus groups and the journal entries, I was able to triangulate the data collected in order to develop the most comprehensive understanding of the participants and their responses.

Summary

This research was conducted using a qualitative approach in which my target population were refugee digital literacy students who had recently migrated to Canada. These digital students were enrolled in programs offered by the Multicultural Health Broker Society and the United Cultures of Canada Association, in which basic training for digital literacy was provided by digital trainers and teachers. The research aimed to hear the voices of the participants about their experiences with integration and identity re-construction since their move to Canada, as well as capturing their experience with digital technology in this transition. By capturing their experiences and perspectives on integration and barriers to success, I present this research to suggest ways in which digital literacy for newcomers may be improved. With the flux of newcomers, it is essential that existing support systems (like MCHB, UCCA and other refugee supporting non-profit organizations) are able to provide the required resources necessary for successful integration of these refugees. Through being an observer and facilitating focus groups, I conducted a content analysis to identify themes that helped me answer my research questions: how can digital technologies be used to deliver optimal learning and support for

refugees and newcomers in order to facilitate integration, and assist them in overcoming existing gaps in education, socioeconomic status, and identity reconstruction? In the next chapter, I will present the findings that I obtained from conducting the focus groups at MCHB and UCCA. Using the findings and analysis of the data collected, I will relate the key findings to the wider context and motivation for the study.

Findings and Discussions Chapter

Introduction

Newcomers to Canada that have little to no experience with technology come with a unique set of challenges that require unique approaches to overcome. My volunteering work with the Multicultural Health Broker Society (MCHB), and the United Cultures of Canada Association (UCCA) helped me to gain a better understanding of the struggles that these newcomers face. My research question is: how can digital technologies be used to deliver optimal learning and support for refugees and newcomers in order to facilitate integration, and assist them in overcoming existing gaps in education, socioeconomic status, and identity reconstruction? This question is important as it affects the lives of over 1 million refugees who have migrated to Canada since 1980 ("Refugees in Canada", 2021). Most of these refugees are struggling with financial resources, and have had to learn a new language and quickly adapt to a new culture, ("Refugees in Canada", 2021).

Volunteering with MCHB and UCCA allowed me to build a relationship and familiarity with the digital learners, as well as identify the patterns present in all of the learners that can be highlighted to instructors and curriculum developers as they enhance their programs. Essentially, by bringing the struggles and experiences of these digital immigrants to the forefront, I hope to share my learnings to support the development of tools and resources that can ease the transition for them.

As mentioned above, I volunteered with MCHB and UCCA. MCHB has one cohort in the program called Digital Literacy for Employment in which I volunteered weekly. For UCCA, I volunteered twice a week as they have two separate cohorts, one for men and one for women. UCCA's digital training program is built for men and women with families to assist in

technological learning and acquiring basic computer skills. By volunteering with both UCCA and MCHB, I was able to build a strong relationship with the instructors and the immigrant learners which helped me to gain a better understanding of the struggles present on both sides (being a digital immigrant in a foreign society, and being a mentor that supports the learning). Nearing the end of the courses at both organizations, I purposefully sampled 32 refugees enrolled in both the digital literacy programs at MCHB and UCCA.

Prior to the focus group interviews, I shared the Study Information and Consent Form document with the instructors at both MCHB and UCCA, as well as all the students enrolled in the digital literacy courses that I was volunteering in at the two organizations. I received 32 signed consent forms. The focus group interviews were conducted virtually on the Zoom platform and recorded. The two classes (one for men and one for women) at UCCA joined me in a combined class session on Zoom to help make the process simpler by having everyone in one place at the same time. For the purpose of explaining my research results, I will refer to the 2 gender-separated classes at UCCA as one cohort as I conducted the group interviews with both classes during the same Zoom session.

For both cohorts, data was collected via journal entry in Microsoft Word. Cues (including non-verbal cues) were documented. I also adopted an approach of live coding (capturing notes during the interview itself, and marking re-emerging themes/responses as they came up). Following this approach of coding whilst collecting data, as well as after gathering all the data, allowed me to create connections between the participants' responses from both focus groups.

This Findings and Discussions chapter is divided into the following sections: Data Presentation, Data Analysis, Discussion and Summary. In the Data Presentation section, I will walk you through the findings I obtained while conducting my research at UCCA and MCHB, as well as explaining my research approach. In the Data Analysis section, I will outline the procedure I used to conduct my analysis. This will lead into the Discussion section, in which I will discuss the results of my analysis and the interpretation of the results I received from the interviews I conducted, as well as a few of the surprising findings that came along the way. This study included a total of 32 participants. While conducting the group interviews, each participant within each separate cohort (UCCA which will be identified by the letter 'U', and MCHB which will be identified by the letter 'M') was given a number. Throughout this chapter, individual participants that I quote from MCHB will be referred to as Participant M1, Participant M2, etc. Individual participants that I quote from UCCA will be referred to as Participant U1, Participant U2, etc.

Data Presentation

I conducted the focus group interviews with the two cohorts at UCCA and the one cohort at MCHB. The data I collected will be presented in this section in a table that will compartmentalize some findings that were similar in categories. Coding allowed me to identify themes and patterns that emerged out of the interviews. This is especially key in determining the similarities and differences in the refugee resettlement process, as well as barriers to successful integration and digital adoption.

The categories within my interview guide (Appendix A) were: Study Introduction, Preamble/Introductions, Overview of Participants, Integration, Digital Literacy Training, and Building Blocks. To present my findings, I will be using a similar breakdown format,

however the sections will be titled as follows: Overview of Participants, Experience and Exposure to Technology Prior To Migration (to Canada), Experience and Exposure to Technology After Migration (to Canada), Experience with Digital Literacy Training Program, Building Blocks For Successful Integration. In order to help digital learners in gaining the skills they need to be successful here in Canada, it is vital to learn more about their experiences with computers, mobile devices, and the internet in their home country as well as here.

The interviews themselves took approximately 4.5 hours in total, requiring two class sessions at MCHB and two class sessions at UCCA. Initially the instructors of the courses and I did not expect it to take this long, but as we got deeper into each question, participants were eager to respond and it was deemed best to make it span over two classes. This allowed us to concentrate fully on the various segments that were included in the interview, (Galletta, 2012, p. 78). After gathering the data, I proceeded to transcribe the notes that I took during both interviews at the UCCA and MCHB. I had recorded these interviews and if I had missed anything in my data collection, I was able to reference the video recordings to add more information. During the interviews, for some of the questions (i.e. what do you think was the best learning for you in this course?) I anticipated certain responses, and had them written down beforehand to make data collection simpler (so I could simply add a number/tally of how many people would have responded saying, "typing" or "understanding of basic computer skills"). This live-coding mechanism helped in categorizing responses as they came in. However, due to the spontaneity of qualitative data, not all responses neatly fit into categories I had originally created. As Galletta (2012) explains, "Qualitative research involves reflexivity", and I began to feel this reflexive process throughout the first set of interviews (p. 77).
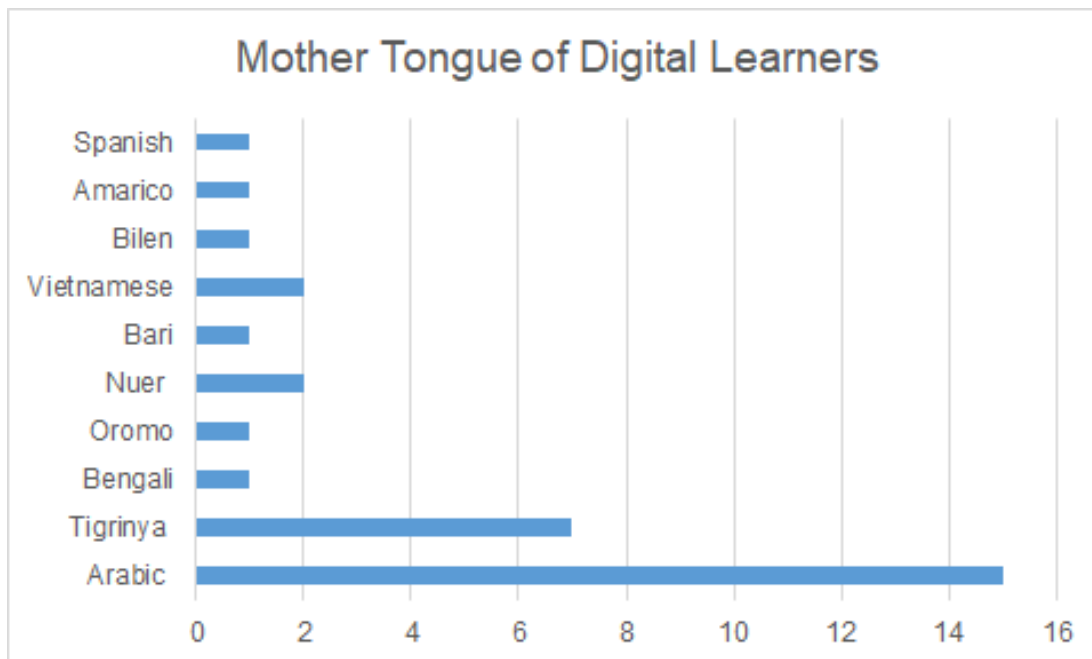
Overview of Participants

Figure 1: Mother tongues of digital literacy students participating in the research from the cohorts at the Multicultural Health Broker Society and the United Cultures of Canada Association.

As pictured in Figure 1 above, the participants involved in this research were diverse in their backgrounds, speaking 9 various languages. A large majority of the refugees in both cohorts from MCHB and UCCA were born and raised in countries that spoke Arabic (predominantly having migrated from Syria, Jordan, Palestine and Sudan). This majority was followed by those fluent in Tigrinya (a widely spoken language in Eritrea and in the northern part of Ethiopia).

To help illustrate the regions across the world from where the participants in this research migrated, Figure 2 shows the world map with the locations pinned. Some students were able to speak the same language as other students, but in different dialects as the regions were completely different.

Figure 2: Regions across the world from where the participants in this study originally migrated from.

After identifying the languages of the participants and their home country, I proceeded to ask the participants their level of education in their home country. Shown below in the table below are the results I obtained from the participants on their highest level of academic education in their home country.

Highest Level of Education	Number of Participants
No formal academic education	5
Elementary School (Kindergarten - Grade 6)	12
Junior High School (Grade 7 - Grade 9)	5
High School (Grade 10 - Grade 12)	6
Post-Secondary Education	4

Based on the chart above, there was a range of responses from the participants on their level of education in their home country. With some being completely illiterate (no reading or writing in native language), this key piece of information is essential as these learners are

learning English with little to no reading levels in their mother tongue. Additionally, digital

literacy is a language of its own - responses on the academic ability and foundation built in the

home country are of great importance for instructors as both instructors informed me that this

level of in-depth discussion on previous technological exposure is not typically had prior to

enrolment of the students.

One of the participants, Participant M1 from the MCHB cohort mentioned that she began

learning the English language from Grade 3 to Grade 6 and this was the only subject taught in

her elementary school in Sudan. After completing elementary school, all subjects were taught in

English. Similarly, other participants in MCHB and UCCA mentioned that in Sudan, especially

the more developed areas, a great importance was placed on learning English. Contrastingly,

Participant Z from MCHB mentioned that in her home country, Bangladesh, all subjects were

taught in Bengali (including biology, sociology, chemistry, and physics). Other participants

mentioned that prior to moving to Canada, they were not exposed to the English language at all.

Four of the students mentioned that the focus back home was to only educate up to a certain level

and then have the females learn household skills like cooking, taking care of the children, and

sewing.

In terms of exposure to technology before moving to Canada, the refugees participating

in the research all had little to no exposure. Listed below are the number of respondents and their

level of exposure in their home country.

Technological Tool/Device	Level of Exposure	Number of Participants n = 32	Participant's Country of Origin
Television	Had a TV in the house	10	Sudan, Jordan, Eritrea, Ethiopia, Bangladesh, Columbia

	Neighbour had a TV that was used to watch the news and movies with other neighbours	6	Sudan, Eritrea, Syria
	Had seen a TV but did not have access to one	14	Sudan, Ethiopia, Palestine, Vietnam, Syria
	Did not see a TV until coming to Canada	2	Sudan, Syria
Radio	Had a radio in the house	15	Sudan, Syria, Ethiopia, Eritrea, Jordan, Bangladesh
	Neighbour had a radio that was used to listen to the news, music, sports, etc. by others neighbours	4	Sudan, Ethiopia, Syria
	Access to radio at a refugee camp	2	Syria, Palestine
	Had seen a radio but did not have access to one	11	Ethiopia, Sudan, Vietnam
Internet	Had internet at home	5	Jordan, Sudan, Bangladesh
	Had an internet cafe in the community	18	Sudan, Ethiopia, Eritrea, Palestine, Jordan, Syria
	Did not have access to internet or internet cafes	9	Vietnam, Syria, Sudan, Ethiopia, Eritrea
Mobile Phone	Had personal mobile phone or work mobile phone	5	Sudan, Ethiopia, Eritrea
	Someone within the household had a mobile phone	9	Sudan, Syria, Ethiopia, Eritrea, Bangladesh
	Did not have access to a mobile phone	18	Sudan, Ethiopia, Palestine, Syria, Vietnam, Jordan

Social Media (Whatsapp, Facebook, Twitter, Viber, Messenger, Email)	Had social media applications downloaded on personal mobile phone or family member's phone	11	Sudan, Ethiopia, Palestine, Jordan, Syria, Bangladesh
	Did not have applications downloaded on phone, but familiar with Whatsapp, Facebook, and other social media applications	13	Eritrea, Ethiopia, Syria, Vietnam, Jordan
	Did not know of any social media applications prior to coming to Canada	8	Sudan, Ethiopia, Eritrea

As can be noted from the data above, even though some participants were geographically from the same country as others in the study, different opportunities and exposures to technology were present. A few of the participants in the study highlighted this of regions such as Sudan and Eritrea. Some communities (especially central) were more advanced in adapting to technology and providing resources like internet cafes, and other communities (often more rural) were not as developed.

Additionally, with some of these technological tools and devices, one thing to keep note of is the generational gap present. Many technological tools have only become widely available over time, even in the regions where technological resources are scarce. As the participants within this study were all adults between 30-60 years of age, the older participants were less exposed to the technological devices that became more widespread in recent years. This was noted from discussions I had with the participants who explained to me that their families back home are now a lot more equipped with technology than they were in the past. One of the younger participants in the MCHB cohort, Participant E (originally from Ethiopia) explained that she had a fairly high level of exposure to technology and had access to TV, radio, internet, and a

mobile phone back home. Participant E highlighted that this exposure to technology made the transition to Canada and adjusting to a fast paced technological environment a lot smoother.

One of the most surprising findings was hearing Participant U9 (originally from Syria) mention that the first time he saw a TV was in 2003. Similarly, Participant M5 from the MCHB group (originally from Sudan) stated that she had not seen a TV until 2005, but had access to the radio that was shared within the neighborhood. Radios in regions like Sudan and Eritrea posed a separate challenge as batteries would be needed to make it function, but batteries were typically very pricey and so the neighbourhood would pitch in money together to pay for batteries so that the neighbourhood could have a central functioning radio. Another participant in the research mentioned how "people who were working and had good money had a TV, and our family did not have the money for it. When we went to stay in the refugee camps, we saw some people have a mobile phone for the first time." Remarks like this are vital in learning the level of exposure and familiarity that these newcomers have with technology. Another comment made by Participant U4 was "mobile phones and knowing how to use them seems a lot more important here [in Canada] than back home. Back home everyone you need to talk to is close by, they live [on the] next street, but in Canada it is very different".

Moving into the Experience and Exposure to Technology After Migration (to Canada) portion of the group interview, I learned that for nearly all the participants, encounters with technology greatly increased once they moved to Canada. I had the participants walk me through their personal experiences in feeling a shift in the level of technology used here versus back home. Additionally, in this section I wanted to gain an understanding of their social support system here in Canada by asking them if there is someone available to help them with technology, integration or support. From the participants in the research, 26 out of the total of 32

indicated that they do live with someone who is able to assist them with any questions related to technology. The local Church and Mosque have been a great help in adjusting within the new society and building a support system, as indicated by 13 of the participants.

One of the most valuable questions that was asked in this section was regarding the literacy/computer/mobile/technological skill that the participants believe is the most important to learn. The question in particular was, "What computer/mobile/technology skill do you think is the most important for you to learn?". Although the focus was on technological skills, many of the participants gravitated towards highlighting their language and communication skills as being most important, (Figure 3). The responses are depicted below in Figure 3.
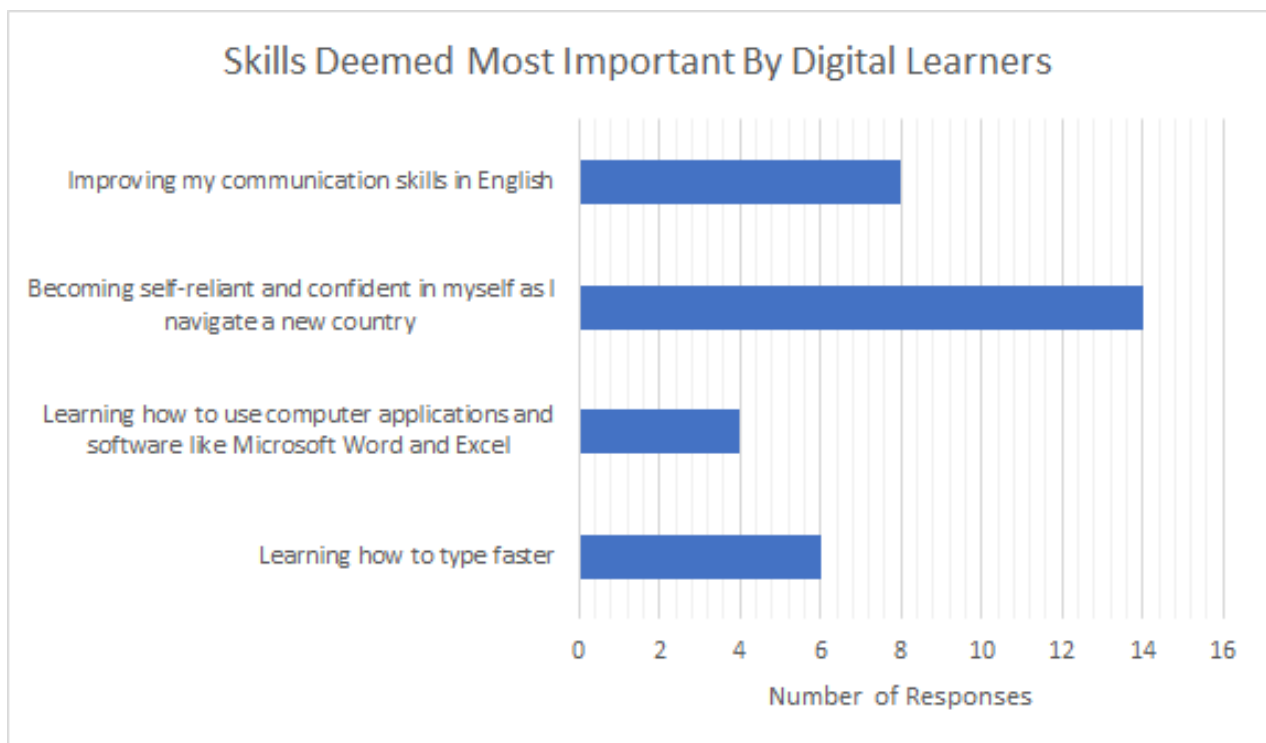

Figure 3: Skills deemed most important by the participants in the research.

Based on Figure 3, it is evident that becoming self-reliant and confident in themselves as they navigate a new country was the highest scoring skill identified by the participants, with 14 participants selecting this. This was followed by improving their communication skills in English

which ranked second with 8 participants. When I first asked the participants' this question, I had provided them with suggestions for answers like "improving English, typing skills, learning how to use email", and I had not originally given them an answer of "becoming confident" or "becoming self-reliant". This answer came from Participant M1 (originally from Sudan) and I was surprised at the amount of other participants that agreed with her. Nearly all participants in the cohort at MCHB are single mothers who have recently migrated to the country, and many of them have previously been reliant on their husbands or older children to help them. But this concept of becoming independent and self-reliant was a great unexpected answer that turned out to be second in the rank of most important skills. As many of the participants raised their hands or verbally agreed with Participant M1 on this skill, I added this to the skills depicted in my data (even though this deviates from the original question which was intended to be focused on technological skills). This is important to highlight, as although these digital learners struggle with technology, language and self-reliance are key skills that go hand-in-hand for them. As remarked by Participant M1, "language helps me in technology, and technology helps me in language learning because I am more exposed to English when I am on my phone or computer".

The last question in this section was regarding technology and its ability to facilitate connection with friends and family back home, and if the participants felt this ease in connection that technology provides. All of the participants in both cohorts agreed that technology has helped in this regard. The difference in their responses was mainly due to the various platforms that are used for communicating back home. The top platforms are Whatsapp, Viber, and Facebook/Messenger. A few of the participants mentioned that Instagram is used too, but it is more of a younger generation application and for them it was less about connection and more about posting pictures. Depicted below in Figure 4 are the various platforms that the participants
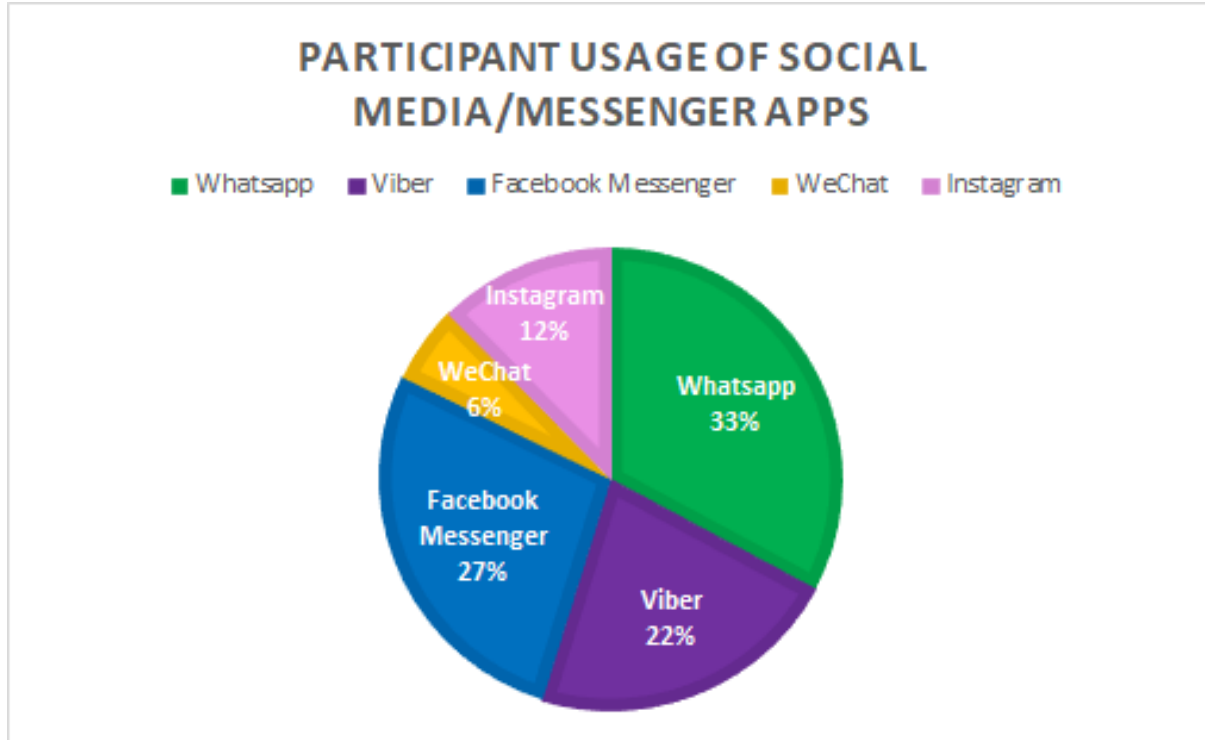
mentioned they use.

Figure 4: Participant responses to social media and messenger apps they regularly use to stay connected with family and friends in their home country.

The next section in the interview was on the Digital Literacy Training Program, and as mentioned to me by the instructors, this question was most useful for them in evaluating their programs at UCCA and MCHB. All the participants in both cohorts stated that they felt more comfortable with the mobile phone and computer/laptop devices now than before enrolling in the digital literacy courses.
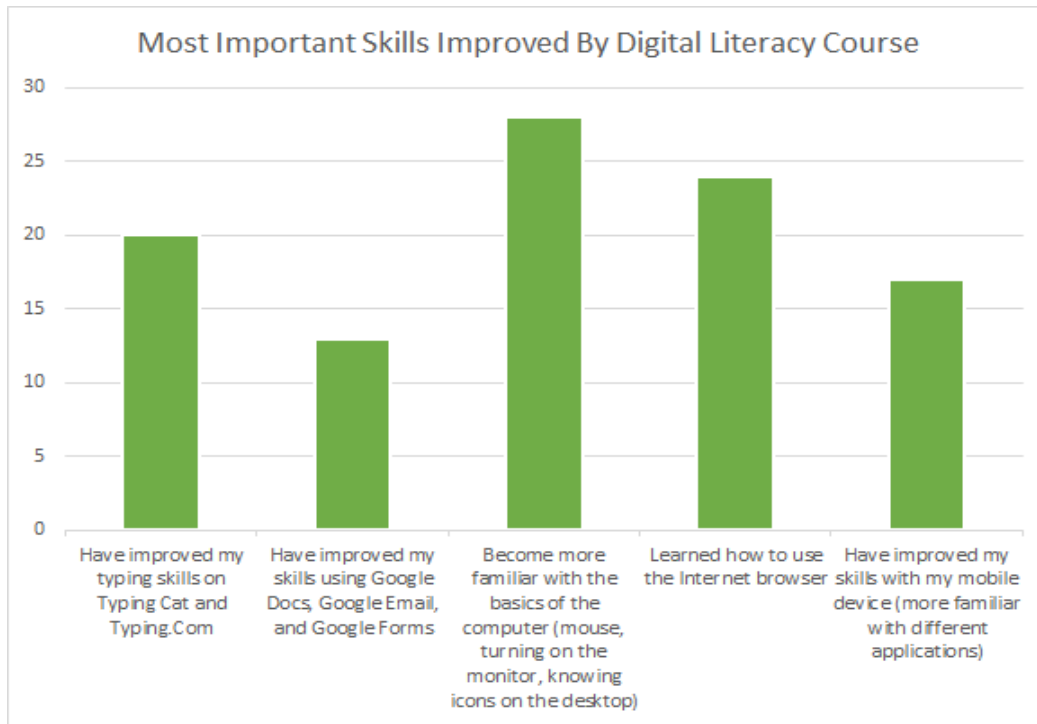
Figure 5: Participant responses to the most important skills that have been improved by enrolling in the Digital Literacy Course (combined results from MCHB and UCCA).
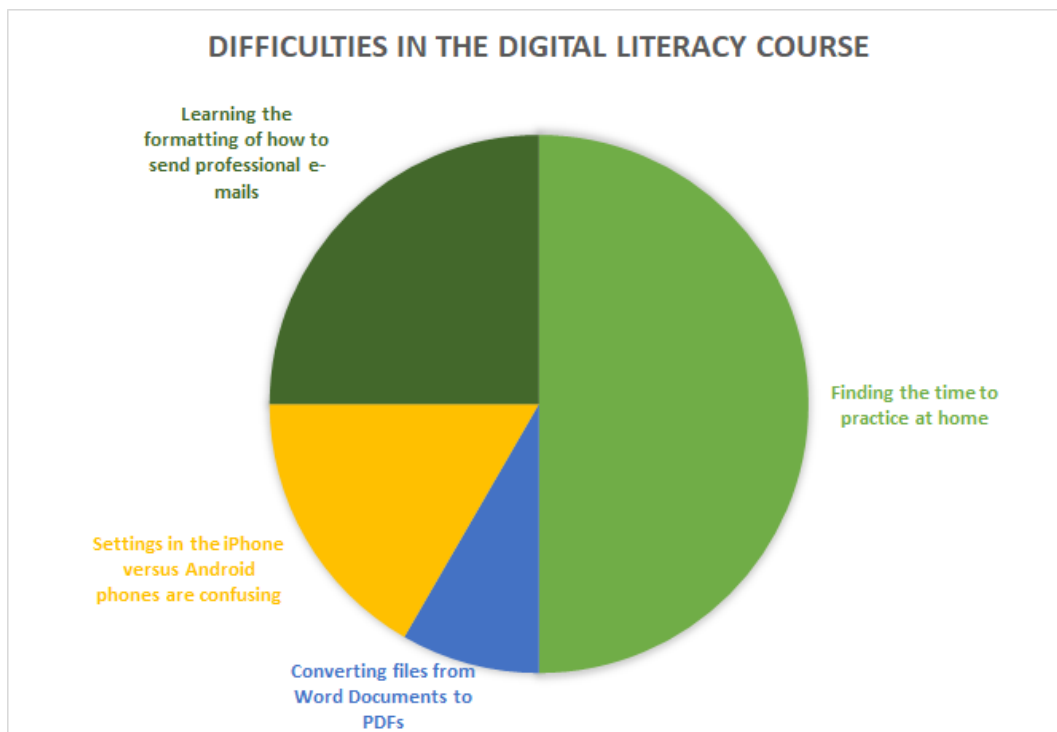

Figure 6: Participant responses to difficulties in the digital literacy course.

Based on the responses in Figure 5, the majority of participants indicated that these skills were most improved by the training provided by MCHB/UCCB. Both cohorts are developed to provide very directed and purposeful training that facilitates the job hunting process for these newcomers, and as so many jobs in Canada today require some level of proficiency in typing, both courses at UCCA and MCHB allocate time towards practicing typing on different platforms. This skill was deemed as having been greatly improved by 20 of the participants. Other participants reported that they have become more familiar with the basics of the computer and how to use one (turning it on, accessing the internet browser, using Google search engine, etc.). An important key factor to note with the skill building aspect of these programs is that each student enrolled in these digital literacy comes with his or her own unique set of skills and struggles, and some students pick up on certain activities at a faster pace than others.

The last section of the interview was on Building Blocks, in which I asked questions regarding their own vision for their future in Canada. I was curious to gather their perspective on where they see themselves in their integration journey and technology journey 5-10 years from now. Nearly all of them mentioned that they would like to improve their communication skills in English as this hinders many of the employment opportunities. The goals that many of them listed were:

- Improving conversational English skills. One of the participants remarked that, "I struggle with knowing what and how to talk with other English speakers. I don't think I know the slang and it is hard for me to understand them sometimes."
- Improving basic computer skills and navigating the phone for various purposes. Participant M7 from Eritrea remarked that "This digital literacy course has helped me in opening and responding to emails that come from my children's school. I would like to

improve my basic computer skills even more so that I can learn how to shop online and know what websites are safe and which one is a scam."

- Improve understanding of Google Maps. Participant U3 (originally from Syria) mentioned that "I find it really hard to get around the city, and sometimes it is hard for me to use Google Maps because I do not use it often. I wish I can improve my knowledge of the city and computers and how I can use my phone to make my transportation easier."

While conducting these interviews, a lot of the respondents would share their sentiments in language learning and digital literacy learning. Participant U8 (originally from Vietnam) mentioned that she feels people of her generation with her experiences were more creative because "things are not just at your fingertips". "We used to make soccer balls with our father's socks and a bag, and now you can just buy [it] at the store. I fear my children are becoming lazy because of technology". Participant M2 (originally from Sudan) mentioned that she struggles with expressing herself and this causes a lot of frustration for her. I think this is a really important quote to highlight because her children are now fluent in English but she is unable to communicate on their level with them. She fears that her children will not be able to be fluent in Arabic (she herself knows Arabic at the university level) and this is something that is really important to her because she would like to teach her children values, religion and tradition but she finds it difficult to communicate with them, especially concepts that are deeper and require a thorough understanding of language. There is difficulty in communicating in a shared language within the household, especially beyond basic words making difficult concepts harder to be shared and learned together.

Data Analysis

The data gathered from the two interviews held at the Multicultural Health Broker Society and the United Cultures of Canada Association gave me a large amount of information, some of which was anticipated, and some that came just from giving the participants an opportunity to share their own perspectives and sentiments. Gavora mentions in his article that with focus groups, "Each turn responds to a preceding turn, explicitly by adding new information to the content, or implicitly by respecting and using of the right to take the floor in interaction and being aware of the rules of speaking and listening", (p. 11, 2015). The focus group brought out many layers of interaction between myself as the interviewer and the participants, as well as the participants themselves. With this semi-structured interview, I found it especially intriguing the way in which a conversation would spark a thought for one participant and this would have a domino effect on the others and they would be eager to share their experiences as well. This phenomenon of moving the stream of communication ideas ahead from participant to participant is discussed by Gavora in his article, where he calls it "The Domino" pattern of interaction, "an interaction pattern with participants' turns which frequently respond to each other", (p. 18, 2015).

As Galletta explains in her book, *Mastering the Semi-Structured Interview and Beyond : From Research Design to Analysis and Publication*, (2012), "the key to effective interviewing is the researcher's attention to the participant's narrative as it is unfolding. Well-informed judgements on the part of the researcher are important as to when and when not to interrupt the participant as he or she responds to a question", (p. 76). As a researcher, it was very interesting to have the semi-structured interview prepared and anticipating some responses, (and knowing where the interview was headed), but also leaving that room for spontaneous answers that were

extremely valuable (for example, the response from Participant M1 on confidence building and becoming independent as a result of the digital literacy training).

This interview process at the Multicultural Health Broker Society and the United Cultures of Canada Association brought to light many of the struggles and strengths of refugees and immigrants that can sometimes go unnoticed. The results I obtained from conducting my research can be applied to my research question in identifying the areas which are gaps in digital learning for newcomers, and gaining a more thorough understanding of the struggles involved in integrating into a new society.

While conducting the focus groups, I conducted checks to ensure the validity of the interview data. This included me as the interviewer often repeating the responses I received from participants to ensure that I was capturing and understanding their comments to the best of my ability, and clarifying with them that what I had heard is what they were trying to say. As Denscombe explains, "Researchers are not 'mind readers'. But there are still some practical checks researchers can make to gauge the credibility of what they have been told," (p. 189, 2010). Another form of double-checking the data I had gathered was providing the instructors with the transcript of what I had written during the focus group sessions, and gathering their feedback on the interview and the respondents' answers. The observations made by the instructors were extremely valuable in the process of confirming validity as the instructors have built relationships with the participants throughout the digital literacy training, and their "observations can provide some back-up for the content of the interview", (Denscombe, p. 189, 2010). Additionally, the instructor's were part of the interview process and I would often hear them remark that they did not know about something that the participant shared, or contrastingly, that they recalled something the participant shared from a previous discussion the instructor had

with them. The instructors have a greater knowledge of their students' past and present struggles, and triangulating responses with them helped in gauging the credibility of the responses. In terms of reliability, the focus groups were both recorded. As explained by Denscombe, "human memory is prone to partial recall, bias and error", (p. 186). By recording the sessions and not solely relying on memory and my field notes, I was able to reference the recordings for both cohorts while transcribing my notes to ensure that my data was reliable. In addition to this, throughout the digital literacy courses that ran at MCHB and UCCA, I actively partook in being an observer during classes. Using participant observation over the course of 3 months with the learners allowed me to use my notes from regular class time to triangulate responses from the focus group. Using multiple approaches in gathering my data, I was able to gain a more comprehensive understanding of the digital literacy journey of these newcomers.

Discussion

By conducting the focus groups at MCHB and UCCA, I was able to gather a participant-focused perspective on the impacts of digital literacy on the integration of refugees. This research study sought to explore the following research questions:

RQ1: How does digital literacy affect the integration of refugees in Canada?

RQ2: How can digital technologies be used to assist refugees in overcoming gaps in education, employment and developing support systems?

The findings of this study, in response to the research questions, suggest that digital literacy has the ability to affect refugees resettling in Canada in positive and negative ways, depending on the following factors: exposure to digital technology and access to digital tools, level of language literacy, and strength of support systems. Additionally, digital

technologies can be leveraged to support refugees in learning, finding employment in their new country, and creating connections with new support systems.

Language learning and digital literacy are not simple tasks, and many of these refugees have come with little to no education from their home countries. Navigating through a language shift, location shift and now a technological shift is all extremely difficult and requires a lot of time and patience to reach a level of familiarity and confidence (Ng & Zhang, p. 4, 2021). When it comes to technology, refugees need more access and more training, not more applications that give the promise of relief (Mason, 2018). Based on my focus groups, both UCCA and MCHB provide training to their students on applications like Whatsapp and Facebook Messenger. Due to this, the percentage of refugees in this study that actively use Whatsapp and Facebook Messenger beyond regular classwork is 33% and 27% respectively. An area of consideration for organizations like UCCA and MCHB is to adopt similar approaches in using tools that students are familiar with and building upon the knowledge they already have in technological tools. Additionally, programs can look at the platform Viber (at 22% of participant usage) and see how the students are using it to connect with family and friends back home. It is the exposure to technological platforms that are more frequently used that need to be emphasized in digital literacy training.

When conducting my literature review, I was interested in how certain applications were designed specifically for refugees to facilitate them in their migration, including Refugee InfoHub and RefugeeOnRails (Khalaf, 2016). However, based on my findings, my sample of refugees were not exposed to these apps. This is also due to the fact that their exposure to cellphones and accessibility to internet access was not that high.

A key finding from my focus groups is the range in digital literacy experiences for each refugee and how this effects the classroom setting. Each cohort offered at UCCA and MCHB includes learners that have such a vast range in knowledge of computers, phones, and the English language. Based on the literature review, as well as the feedback I received from the instructors, the refugees coming with knowledge of English and some amount of digital literacy are the ones that are employed faster (Van Heelsum, p. 2145, 2017). In discussions with the instructor at MCHB, I learned that it actually benefits the refugee learners to be surrounded by learners with varying levels of digital literacy and varying levels of the English language. The importance of peer-to-peer learning helps in the development of digital literacy skills, as well as communicative and team building skills – all of which are necessary for success in the workplace (Dahya, 2016). This peer-to-peer learning can also be used to explain the phenomenon of digital literacy training that occurs at home between refugee parents and refugee children. The intergenerational gap present between children and adult learners can cause disconnect, however, families can use the opportunity of learning digital technology together.

To stay involved throughout the volunteering process, I was included in the group chats that were present in the cohorts on Whatsapp. The relationship building that was in the works by volunteering every week with both organizations greatly facilitated the interview sessions held. I knew the participants and they knew me, and it made the process more honest and genuine. These digital literacy courses are designed to help these newcomers to become more confident and familiar with the technological skills required to successfully integrate in Canada as well as finding employment opportunities. But I also noticed the amount of support these organizations give to the refugees in their citizenship applications,

general inquiries about life and housing in Canada, and assistance with filling forms required with Canada Revenue Agency (CRA). MCHB and UCCA provide a safe place for these newcomers to discuss topics that they do not fully understand and the instructors and health brokers available at these organizations are there to support them. This network of support that organizations like MCHB and UCCA provide refugees and newcomers is extremely valuable in helping these refugees gain a sense of security and independence (Fuchs, 2017).

The last key factor I want to identify as part of this discussion is the importance of independence and self-reliance. Digital literacy has the ability to impact the level of confidence and independence that refugees feel when resettling into their new society. I collected this finding during my focus groups at UCCA and MCHB when asking the participants which skill they would like to improve on. Digital literacy, acquisition of the English language at its most basic level, and independence all go hand-in-hand to create a positive and satisfied mindset for these refugees. Citizens of Canada who have grown accustomed to the fast-paced technological world move with a different sense of ease and action, (Saputra and Al Siddiq, p. 159, 2020). I believe it is this difference in mindset and action that separates refugees from non-refugees in their respective digital literacy journeys, and what makes refugees feel less confident and more reliant on others (not only in their digital literacy journey, but also in their day-to-day integration).

With the COVID-19 pandemic, there were limitations on how the focus group would have been conducted. Additionally, digital literacy training for these newcomers has been even more difficult. While some students that have been raised with the knowledge of technology or have been integrated into a society heavily reliant on technology, the unconventional approach to learning completely virtually has been

especially hard on digital immigrants. Even in conducting the interviews, that social aspect of being together and face-to-face was missing. With being on a Zoom video call for these interviews, some participants would have their videos off and it is difficult to pick any non-verbal cues in this case. However, the virtual platform did make the process efficient in some cases - we were able to have the two classes, men and women, from the UCCA join during one time allocated for the interview virtually. This simplified the process as I did not need to conduct interviews separately with the men and the women's class. Additionally, this virtual process allowed for the participants to get some learning and training on how to sign forms virtually (as was required for the consent forms), and gain more practice with the Zoom platform (how to raise your hand in a Zoom call, sending messages privately and publicly for the other members on the call, etc.).

The participants from both cohorts at UCCA and MCHB were extremely enthusiastic about this process of seeing their progress and evaluating the programs they were enrolled in. I could tell this by the amount of 'hands that were raised' during the Zoom meeting with both cohorts. Every participant was eager to contribute and share their story. Many of the participants remarked that with Covid-19, "something good happened because now we have to learn virtually, and we need everything to be done online" as quoted by Participant U2.

Summary

The stories I gathered from the participants in this sample population are just examples of the many unexpected hurdles of adult language learning and technological learning; many of which are outside the control of the learners themselves. Some of the variables that I was able to identify as affecting the rate of integration into the society included:

- Age: younger learners are faster at picking up language and technology);

- Prior academic education: those that were previously enrolled in education past grade 6 had a far greater level of English proficiency);

- Gender: the men enrolled in the men's class at UCCA had far more English proficiency and felt more comfortable in answering the questions in English versus the women in the cohort at UCCA who often responded in Arabic and the instructor would translate for me).

- Religion: those who attended a local Church that had funding from the government and a lot of support programs for newcomers had far greater success at building relationships and support systems. This also helps with networking, 2 of the participants gained employment via attending their local Church and meeting people who were looking to hire.

Language facilitates technology, and technology facilitates language learning. Throughout this process of interviewing and learning from the participants their fears and struggles with language, a recurring theme of not being able to keep up with technology was present. Further, a fear of not being able to keep up with their families and children was present. These struggles are valid and shared by many newcomers and refugees, and for organizations like MCHB and UCCA that develop programs to help ease the transition, it is essential to have the discussion around these fears. And with that, it is important to bring to light the strengths of the refugees. These refugees have withstood war, breaking up families, leaving behind established roots in their home countries, and they all stand with resilience, and an eagerness to learn and teach what they know. There is a willingness to contribute to their new society, and with the findings that I have been able to gather from the participants at MCHB and UCCA, I hope they are able to

enhance their programs, and other organizations are able to identify areas in their programs that can be more learner-centered and in alignment with the needs of newcomers.

Conclusion

The intent of this study was to explore the role of digital literacy in refugee migration and resettlement. The findings of this study indicate that digital literacy affects the integration of refugees in Canada greatly as technology is embedded in our social and professional lives – both of which contribute to the wellbeing and independence of refugees. Digital literacy programs across the country can be developed to provide supports for refugees in overcoming gaps in education, employment and building a network of support for these newcomers. This includes individualized learner-centered training on technology and its basic applications. However, this starts with the access to technology and the internet. As mentioned by Alang, "There must be room for the voices of those for whom tech is not just another luxury, but a vital connection to the world in all its possibility (p. 16, 2015). Without access to technology and resources, there is no moving forward in the learning of digital literacy and a low level of independence for refugees as they begin to integrate into their new society. Organizations like the Multicultural Health Broker Society and the United Cultures of Canada Association support a limited number of refugees for every cohort they develop. They offer digital literacy training that facilitates the resettlement of newcomers, aid in finding employment, and opportunities to grow further in education and career. However, there is a large number of refugees within Canada who do not have digital literacy training and are unable to 'keep up' with the mindset and pace of this extremely fast-moving technological realm (Saputra and Al Siddiq, p. 159, 2020). This hinders these refugees who are without access to resources feeling isolated and without a support system (Ng & Zhang, p. 4, 2021). There is a great need for more organizations and funding agencies to support the digital literacy training programs across the country to facilitate the integration of refugees and newcomers. Howell discusses the declaration made by the United Nations in Article 19 of the Universal Declaration of Human Rights (UDHR), which declares that the internet is a

human right (2016). Although this law is not enforceable, it holds some weight for consideration for many nations including Canada. Access to technology and the internet are extremely vital in today's era, and while organizations like MCHB and UCCA provide the amount of support they can in providing students within the class with digital equipment, resources and training, there is a large number of refugees who do not have mobile phones or computers/laptops within their homes. Additionally, there is a need for more volunteers and 'Techfugees' to provide a helping hand to those coming to the country with little to no knowledge of the language, the technology and the culture (Fuch, 2017). Organizations like MCHB and UCCA are founded on principles of building strong communities with volunteers and leaders ('Health Brokers') who can be the bridge between refugees leaving isolation behind and gaining a sense of independence.

The two digital literacy programs I had the opportunity to conduct this case study typically only run for 3-6 months. This means that the training is time-condensed and these learners need to be able to gather as many skills as possible within this timeframe to allow them success in their job hunt, and ultimately, attain high work performance in their jobs. Due to the time-condensed nature of many digital literacy programs, it is essential that these programs focus on building upon skills that these refugees already come with. As indicated in this study, certain digital platforms (like Whatsapp and Facebook Messenger) are regularly used by refugees to keep in contact with their loved ones in their home country, and leveraging this limited exposure to digital technology in digital literacy classes can be of great benefit. Both MCHB and UCCA have Whatsapp groups to communicate with the class regularly. Digital literacy programs that focus on making connections and building upon the digital skills refugees have are successful in providing these refugees with learnings they can quickly start using and strengthening in their day-to-day communications.

With such a limited time to teach such a great amount of information to students, it is essential for digital literacy programs to focus on the key aspects of learning for these students. In this case study, the focus for both organizations is to bridge the gap between newcomer families and Canadian society. This extends beyond just digital literacy training. In the focus group discussions I had with the two groups, this idea of interconnectedness between the realms of digital literacy and integration into Canadian society was prevalent. This also ties in directly to the research question in this study, 'how can digital technologies be used to assist refugees in overcoming gaps in education, employment and developing support systems?'. Mastering key skills in digital literacy and navigating the basics of digital technology directly feeds into the confidence that these refugees have in themselves and their ability to communicate. Digital literacy programs have the ability to boost confidence for these refugees, give them the knowledge about the culture of the workplace, and help them create connections (Beste, 2015). In overcoming gaps in education and employment, skills in digital literacy can help open doors of opportunities for growth both academically and professionally. By focusing on digital technologies and skills that are essential in gaining work experience and success in the workplace, (including the creation of resumes, cover letters, how to answer questions in interviews, etc.), digital technologies play a great role in pushing these newcomers to reach new heights in their technological journeys.

The most significant findings from this study show the interconnectedness of digital literacy, comprehension of a new language, confidence building, and the ability to successfully integrate into Canadian society. Digital literacy has the ability to improve self-confidence and self-reliance, both of which are key for many refugees to feel a sense of control in their lives (Ng & Zhang, p. 5, 2021). Based on this study, digital literacy and acquisition of the English

language, all contribute to the aspirations that many refugees have of becoming independent, self-reliant, and successful in their new society. The ability to communicate and express oneself is essential in building connections, and as indicated by some of the participants in this study, sometimes there are struggles just communicating with members of their own families. Language and digital literacy go hand-in-hand in today's world. For refugees to gain a greater sense of life/work communications in their new society, enhance their critical thinking, and enhance cultural awareness and competence, digital technologies can be leveraged to build upon their existing strengths and skills. This idea of empowerment and connection that technology can provide was discussed in the literature review, where technology is being used to simplify the lives of refugees (transitioning documents online for easier accessibility, availability of online trainings for various working fields, etc.), (Frey and Gatzweiler, 2020). Technology can empower, and a key finding in this study has been the importance of ensuring that technological tools are being taught in a way that makes them enjoyable and simple to learn. Additionally, technological tools should be adding ease to the lives of these new learners (teaching them the ease of email and its fast communication, the ability to FaceTime and connect with people around the world, using the microphone feature on a mobile phone to have text populated in a text field, etc.). It is vital for programs to emphasize the ways in which technology can facilitate communication and help in building connections to boost the enthusiasm and motivation in learning digital technologies.

Refugees resettling in Canada have a range of responses when it comes to their previous exposures to technology, and exposures can vary even when refugees are geographically from the same country. Programs offering support for refugees need to keep learner-centered objectives at the forefront in their curriculum development. As indicated by the instructors in this

research, this method of conducting focus groups to learn more about the individual experiences of the refugees is of great benefit in developing learner-regulated goals. Digital literacy programs can adopt similar group discussions to aid in creating goals for each individual learner based on their experiences and exposures to technology.

A major limitation in this study design was the nature of the interviews due to restrictions with the COVID-19 pandemic. The interviews conducted virtually had drawbacks like some participants not being able to join the Zoom call on time (as they had difficulties with their internet connection), and also some drawbacks based on the inability to sometimes see the participants who chose to have their cameras turned off. With many of these refugees struggling with English and digital technologies, the importance of seeing them cannot be overlooked. Occasional disturbances of some participants not being muted while others were speaking was another drawback. If this study were to have been conducted without the COVID-19 restrictions, there would have been an opportunity to meet more regularly in person with the participants, be able to see their facial expressions without a mask during the focus groups, and potentially even have included cultural aspects like food sharing to build an entertaining twist on the focus group approach (which was something I considered as part of opening the research study with the two groups prior to COVID-19).

An area of future research in the long-term could be to follow-up with these participants or others within the cohorts at UCCA and MCHB and see the progress of the digital literacy training programs and their success. Many students enrolled in the digital literacy programs land entry-level jobs and begin building their careers off the foundations of the trainings provided at these organizations. All the participants in the study indicated ambitions of growth and

independence in the next 5 years of their integration journey, and it would be of great interest to

me to see how they grow in their educational and professional pursuits.

Appendix A

Data Collection Interview Guide

Study Title: Exploration of the Role of Digital Literacy (DL) in Refugee Migration and Resettlement

Consent Review

- Verbal agreement to proceed and record

1. **Study Introduction**
   Goals of the interview: To characterize the experiences of refugees/newcomers in their digital literacy journey, further exploring this area of digital literacy for refugees and newcomers and identify shared areas of weaknesses and strengths amongst the newcomers. Identify their exposure to technology prior to migrating to Canada, experience with digital learning in the digital literacy program, and areas that they wish to improve on.
2. **Preamble/Introduction**
   · Name:

   · Organization:

   · Mother tongue:

   · Educational Background:

3. **Overview of Participants**

   Invite participants to tell me about themselves and their experience with technology and English communication in their homeland.
   - o *Follow-up:* Describe your experience with computers and mobile phones in your home country.
   - o *Follow-up:* Describe your level of literacy in your mother language, and your exposure to the English language before moving to Canada.
   - o *Follow-up:* Were there any technological platforms you were familiar with back home? (Whatsapp, Facebook, Twitter, Google Maps, etc.)
   - o *Follow-up:* When you were relocating, were there any apps or platforms you used in your search of a new home?
4. **Integration**
   Walk me through your experience with technology as you moved to Canada.
   - o *Follow-up:* Did you feel a shift in the level of technology used in Canada versus your home country?
   - o *Follow-up:* What computer/mobile/technology skill do you think is the most important for you to learn?

    o *Follow-up:* Is there someone in your house that you are able to ask for help when you have a question about technology?

    o *Follow-up:* Do you feel that you have a good support system (friends and family) in Canada?

    o *Follow-up:* Does technology help you keep good communication with your friends and family back home?

5. Digital Literacy Training

Describe your experience with the digital literacy program (UCCA or MCHB) that you are currently in.

    o *Follow-up:* Are you more comfortable with the mobile phone and computer/laptop now than before the course?

    o *Follow-up:* What do you think has been the best learning for you in the course?

    o *Follow-up:* What has been the hardest learning for you in the course?

    o *Follow-up:* What do you want to improve on the most?

    o *Follow-up:* What has been your biggest accomplishment so far with technology?

6. Building Blocks

Describe the type of job you would like to have in Canada, and the skills you think you need to gain to be successful at it.

    o *Follow-up:* What are the skills and training that you think will help you gain the confidence to do well in this job?

    o *Follow-up:* Where would you like to be 5 years from now in your technology journey?

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