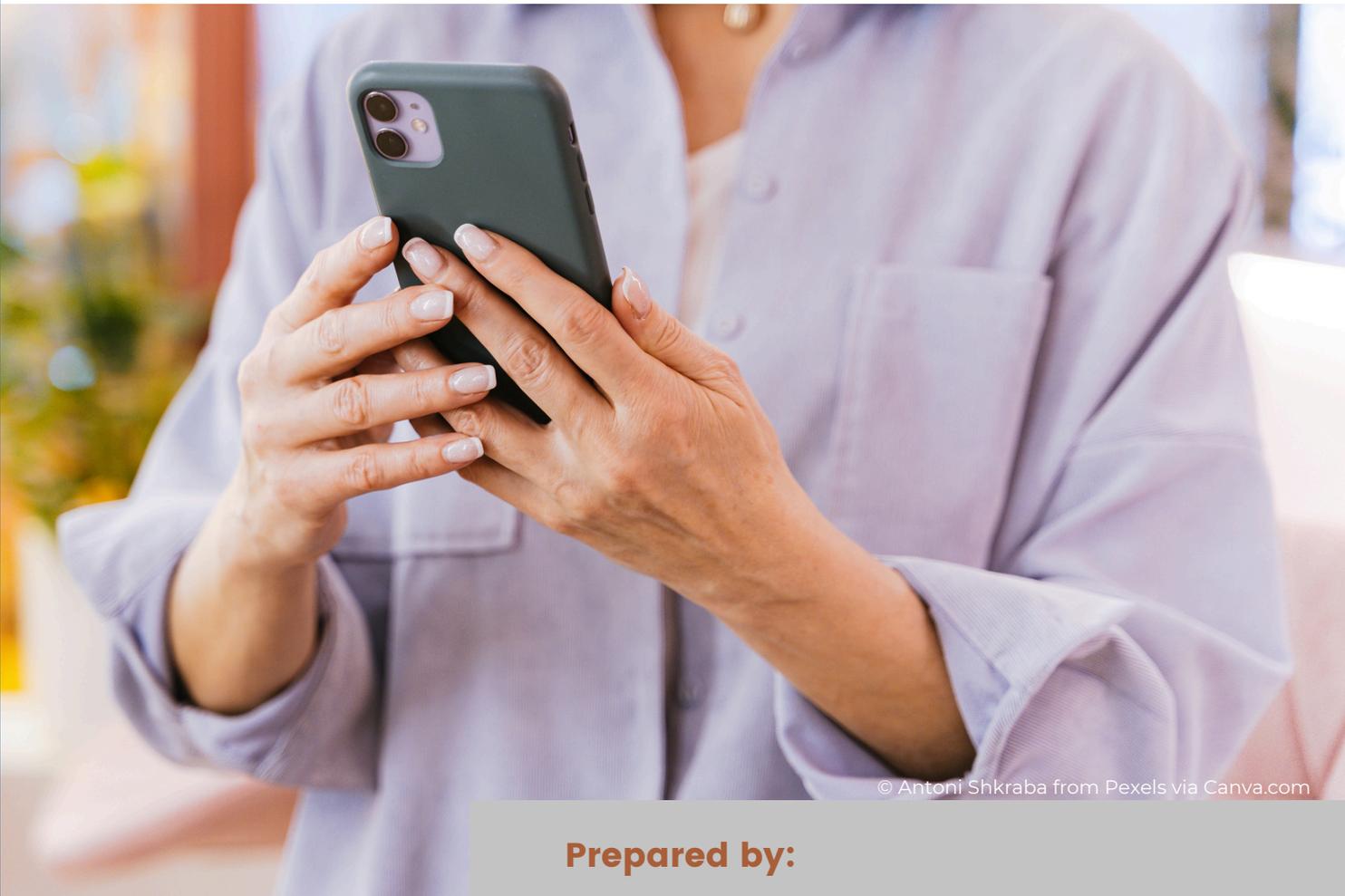


Research Report

Enhancing Digital Literacy Among Canadian Immigrant Older Adults

Insights from Community-Based
Research and an Educational Program



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Prepared by:

IREA

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Executive Summary

The COVID-19 pandemic has emphasized the importance of ensuring that everyone, especially older adults, are included in the digital world.

Immigrant older adults face unique challenges when it comes to technology compared to other older adults. Although there are digital learning programs available for older adults, there is limited information available on the specific needs and strategies of older immigrants.

To address this gap, we conducted a community-based qualitative study using group-based digital learning sessions that were developed in collaboration with the immigrant older adults.

We partnered with two organizations in Edmonton, Canada, that support local ethnocultural communities and recruited 31 older immigrants who spoke Arabic, Farsi, and Kurdish. Data was collected through interviews, focus groups, and by observing participant interactions during the digital learning sessions specifically how the program design met learning needs.

This report provides an overview of the findings on how older immigrants use information and communication technology (ICT) and aims to better understand their experiences in participating in group-based digital literacy sessions.

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Introduction

Information and communication technologies (ICT) have become integral tools for accessing and disseminating information in Canada, where over 92% of the population uses smartphones. [1, 2]

Digital literacy, which encompasses the ability to search, evaluate, and create digital content [3], plays a vital role in fostering social inclusion, empowerment, and participation across various domains such as the economy, education, politics, and culture [4-7]. Notably, older adults face unique challenges in navigating the digital landscape, particularly exacerbated by the COVID-19 pandemic.

This has highlighted the importance of digital inclusion for ensuring equitable aging experiences. Despite the widespread adoption of ICTs, a digital divide persists. Factors such as inadequate access to digital tools, limited proficiency in technology usage, and disinterest in digital content contribute to this divide among older adults [8-11].



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Objectives



Explore the use of ICTs by immigrant older adults



Examine the barriers and motivators associated with using ICTs



Determine digital learning needs for immigrant older adults



Explore learning approaches amongst immigrant older adults

Literature Review

Digital Literacy & Older Immigrants

In Canada, the increasing prevalence of information and communication technologies (ICTs) underscores the significance of digital literacy, particularly among older immigrant populations [3]. Despite the widespread usage of smartphones and digital platforms, older immigrants encounter unique challenges due to age and immigrant background [11].

Limited finances, language proficiency, and acculturation barriers contribute to the digital disparities experienced by older immigrants [12]. Notably, recent immigrants demonstrate varying levels of internet usage, suggesting a need for tailored interventions to address digital literacy gaps [13].

Digital Competence & Social Connectivity

Digital competence, defined as the integration of knowledge, skills, and attitudes toward technology use, influences older immigrants' engagement with ICTs [5]. Accessible visual polymedia and social networking options offer avenues for social connectivity among immigrant populations, aiding in bridging social isolation [14]. Despite these opportunities, empirical evidence highlights persistent digital divides influenced by socio-economic status, language proficiency, and digital literacy [8].

Literature Review

Interventions and addressing Disparities

Empirical studies underscore the necessity for interventions aimed at enhancing digital literacy among older immigrant populations [10]. While ICTs offer opportunities for social connectivity and resource access, disparities persist, necessitating targeted efforts to mitigate digital divides [7]. In Edmonton, previous research suggests that older Arab adults encounter challenges such as loneliness and social isolation, emphasizing the importance of tailored interventions [15].

Connection to Well-being

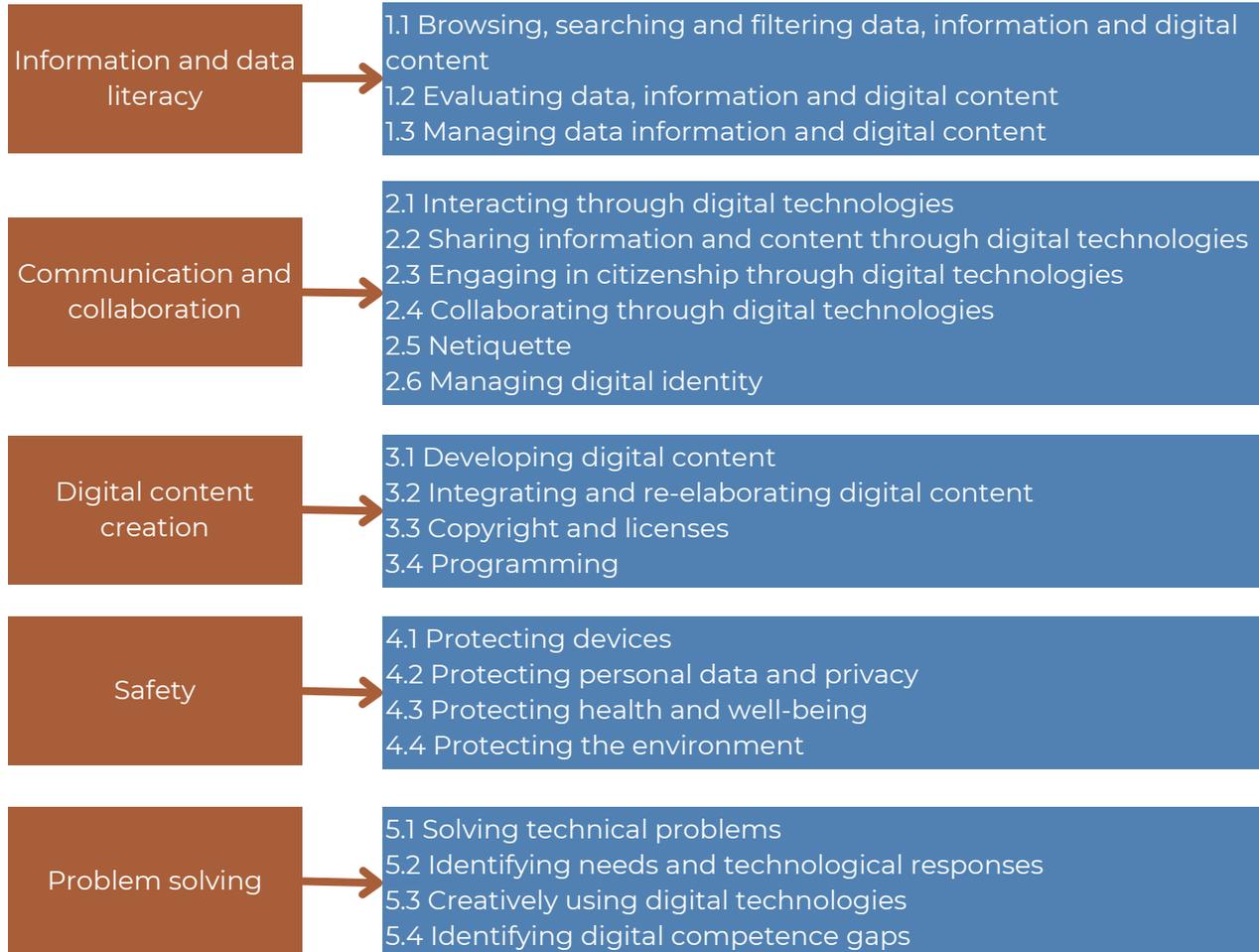
In older age, ICTs serve as tools for social connectivity and access to material and emotional resources among immigrant populations [16]. With Canada hosting a significant older immigrant population, ICTs play a crucial role in promoting well-being and addressing issues like loneliness and social isolation [17]. Access to ICTs facilitates social connectedness, entertainment, and staying updated with current events, thereby enhancing the quality of life among older immigrants [18].



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Theoretical Toolkit: DigComp 2.2

The DigComp 2.2 outlines digital competencies into five areas [19]:



Each competence area contains dimensions that correlate a proficiency level to assessment indicators which can be used to design competence assessment tools and support education and training.

01

We used this framework to categorize participant experiences

02

Integration of framework concepts into our data collection allowed us to identify learning gaps and areas for development

Theoretical Toolkit: Adult Learning Theory

In addition, two principles guided how we sought to approach digital learning [20]

Older adults bring:

a wealth of knowledge and skills accumulated over their life course



Older adults will:

engage in learning when it is viewed as useful and of interest to their lives



Our Strategies:

01

Optimize expressed interest and utilize internal motivation by relating learning objectives to participant day-to-day activities

02

Enable use of their own mobile devices to encourage experiential and hands-on learning

03

Utilize peer-based learning and create an enjoyable social setting for interaction

Methodology: Setting

Participants were included in the study if they met the following criteria:

- 55 years of age or older
- Report using ICTs in their daily lives
- Identify as an immigrant or refugee

This study was conducted in Edmonton, Alberta with a focus on settings in which Arabic-speaking older adults congregate.

Al-Rashid Mosque and Islamic Family (IFSSA) supported participant recruitment and provided space for the group learning sessions.

Participants were invited by service providers at these organizations to participate in the study via phone calls and in-person introductions. Upon expression of interest, research team members reached out to provide more detail and obtain consent for research participation.



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Methodology:

Learning Session Team



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Instructor:

- Male; 20's
- 4th year undergraduate computer engineering student
- Familiar with technology and applications
- Created session material and led sessions
- Pakistani/African American heritage



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Facilitator:

- Female; 20's
- Masters level education
- Fluent in Arabic (reading, writing, speaking)
- Conducted focus group interviews
- Interpreted all information during sessions
- Tunisian heritage

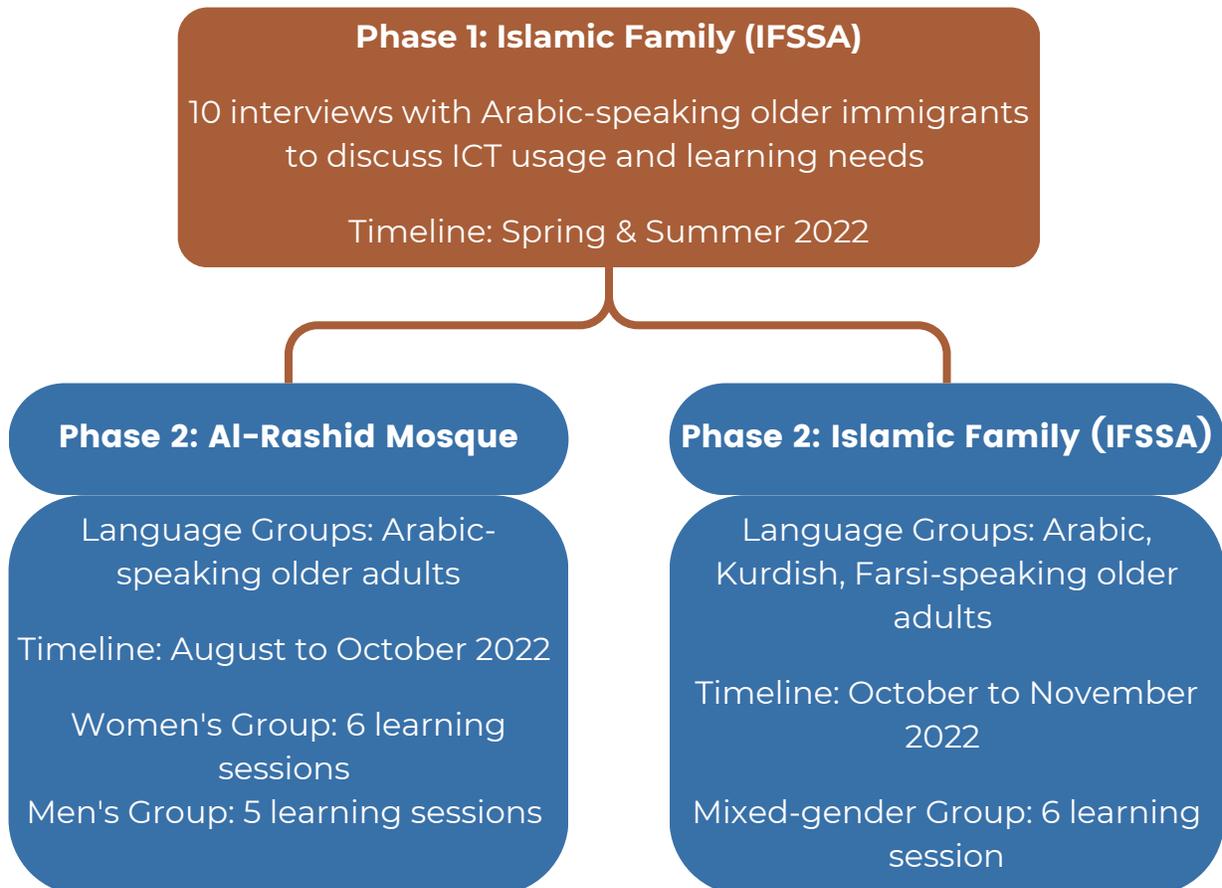


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Assistant/Researcher:

- Female; 20's
- Graduate student & registered nurse
- Conducted Phase 1 interviews and completed analysis
- Completed observation forms during sessions
- Chinese heritage

Data Collection & Analysis



Prior to enrolling for learning sessions, all participants completed a sociodemographic questionnaire and two questionnaires to determine technology acceptance and mobile device proficiency:

- Senior Technology Acceptance Model (STAM) [21]
- Mobile Device Proficiency Questionnaire (MDPQ-16) [22]

At the start of each learning session, we conducted a focus group interview to explore the relevance of the educational content prepared for that session, and to generate lesson planning for following sessions

Thematic data analysis was completed by the research team on all interview data from Phase 1 & 2. The analysis revealed main ideas about ICT experiences, attitudes and needs

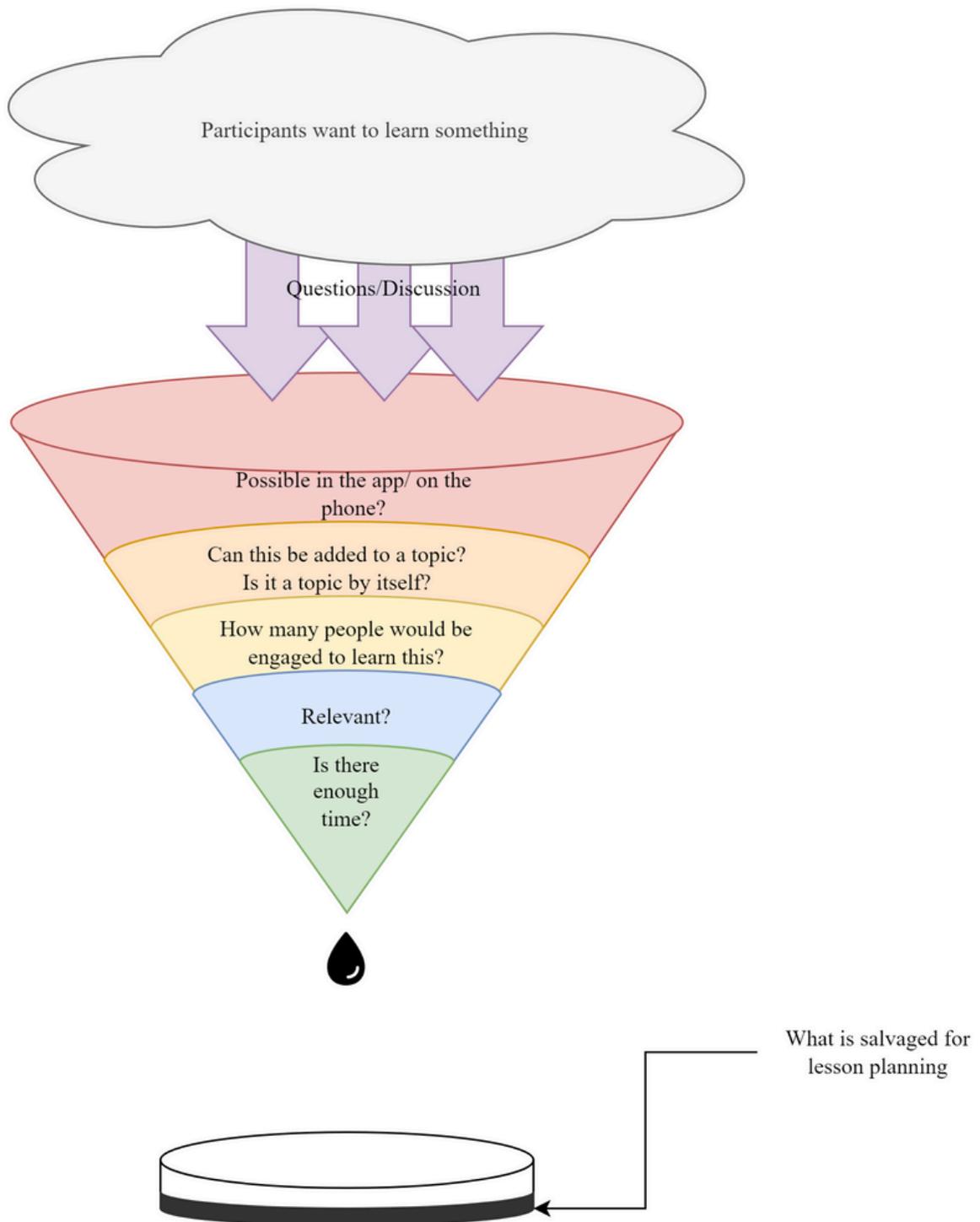
Learning Session Topics

Based on Phase 1 data about the most used mobile applications and learning needs, the following program was made:

Application	Session Objectives
Gmail	<ul style="list-style-type: none">• Setting up a Gmail account• Sending and receiving email• Subscriptions (e.g., Mosque's newsletter)• How to block spam• How to highlight important emails
Facebook	<ul style="list-style-type: none">• Creating an account• Setting up preferences for news feed & advertisements• Creating and joining groups• Managing friends list• Posting content
WhatsApp	<ul style="list-style-type: none">• Creating groups• Sharing information• Blocking/adding others• Controlling auto-save and space management• Changing wallpaper
Zoom	<ul style="list-style-type: none">• Joining a Zoom meeting• Creating a Zoom meeting
Google Maps	<ul style="list-style-type: none">• Toggling voice automation• Accessing directions• Changing the method of transport• Overview of icons/symbols
Basic Settings	<ul style="list-style-type: none">• Virtual password management• Saving app data• Screenshots• Managing storage• Switching between languages

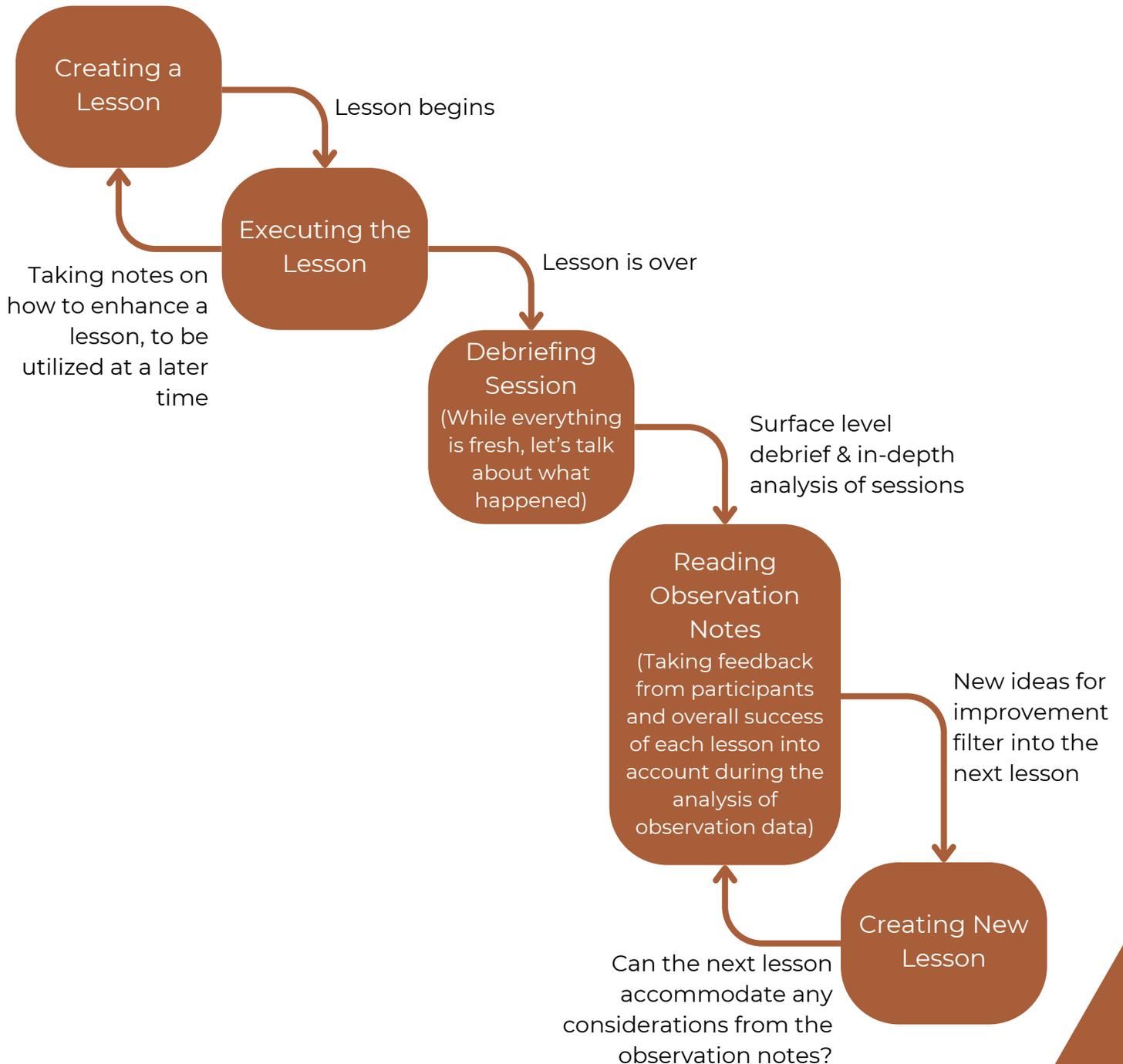
Learning Session Approach

To illustrate how we tailored our learning sessions, we present our Funnel Filter Strategy:



Learning Session Approach

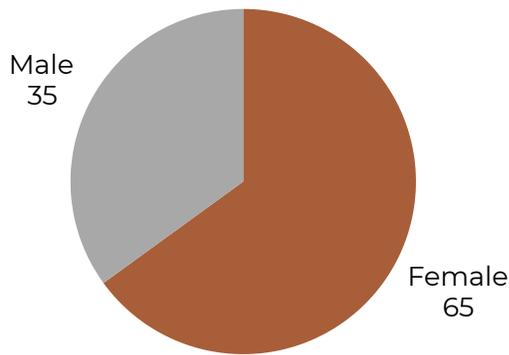
To illustrate how we modified our learning sessions over time, we present our Feedback Spiral Strategy:



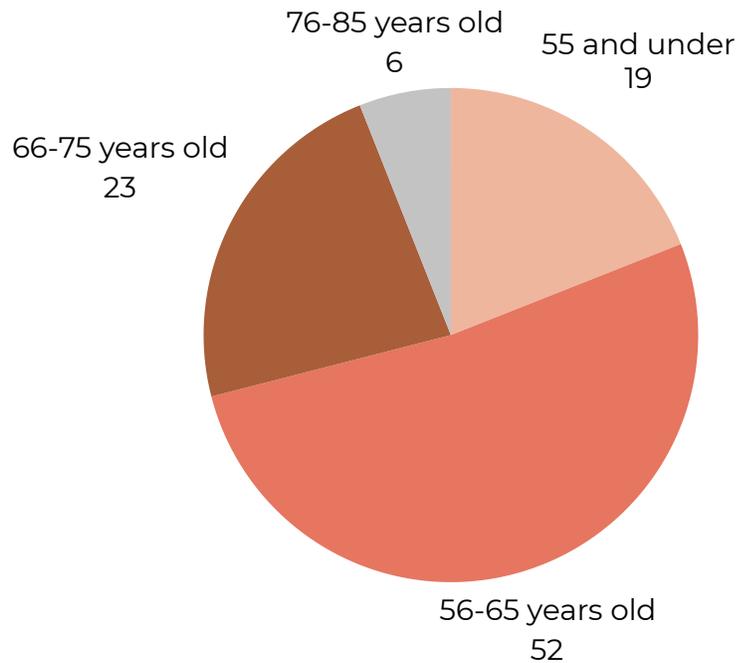
Findings: Participant Demographics

In total, across both organizations, 31 participants participated in this study with nineteen older immigrants completing the co-designed group-based learning sessions, each attending five to six sessions.

Gender Distribution (%)

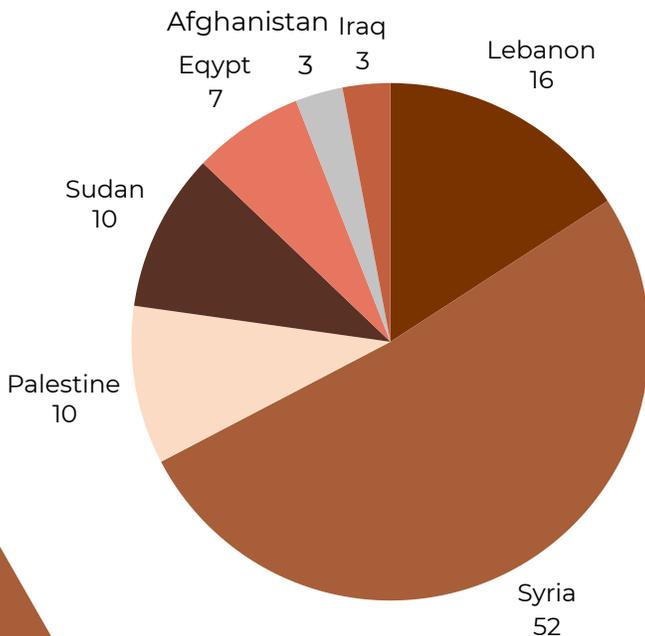


Age Distribution (%)

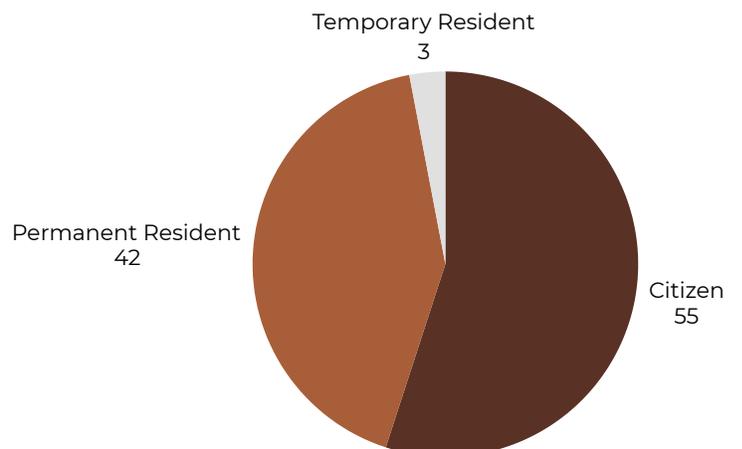


The average age of participants was 64 ± 7.7 years

Country of Birth (%)



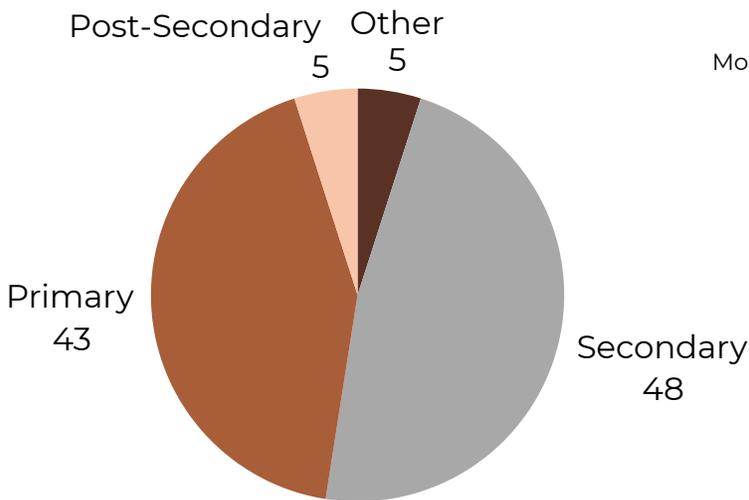
Immigrant Status (%)



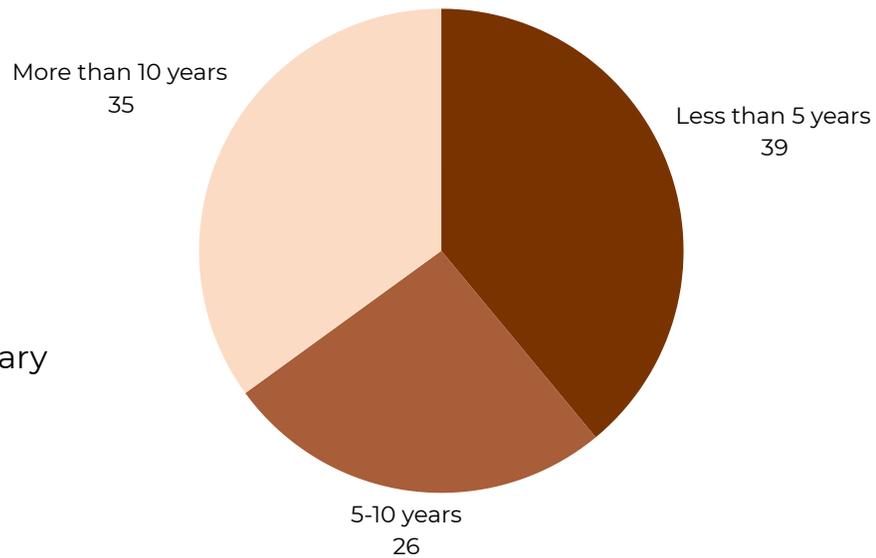
Findings: Participant Demographics

The participants had various levels of education, and a mix of newcomers and long-term immigrants were included in this study. Most had a family income of less than \$20,000 and received government financial support.

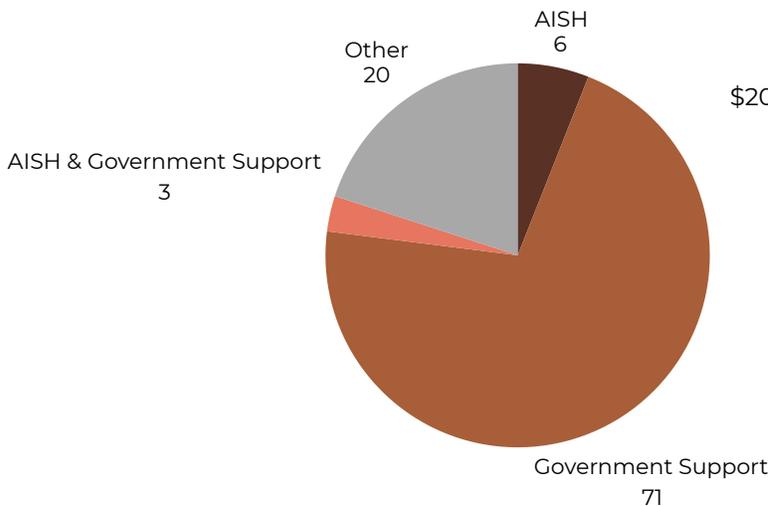
Highest Education Level (%)



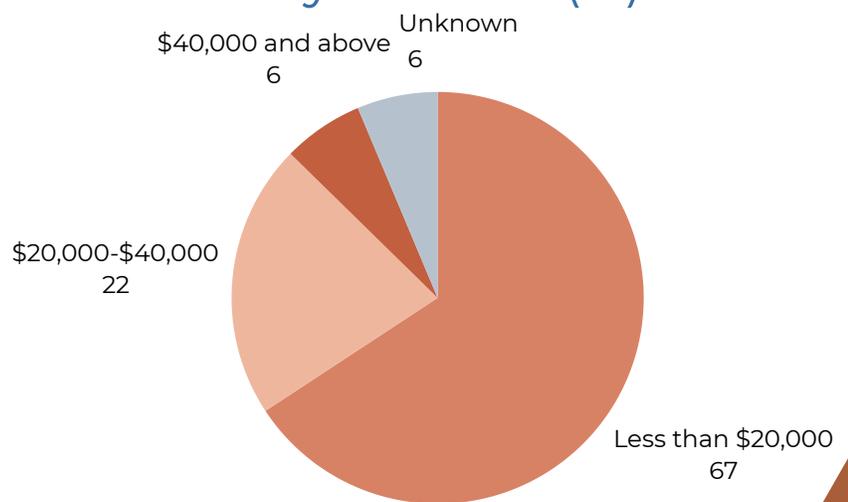
Time lived in Canada (%)



Income Source (%)



Family Income (%)



Findings:

Technology Acceptance & Mobile Device Proficiency

Most participants strongly agreed that using technology was useful and would enhance their effectiveness in daily activities. From the questionnaire responses, we found the following:

01

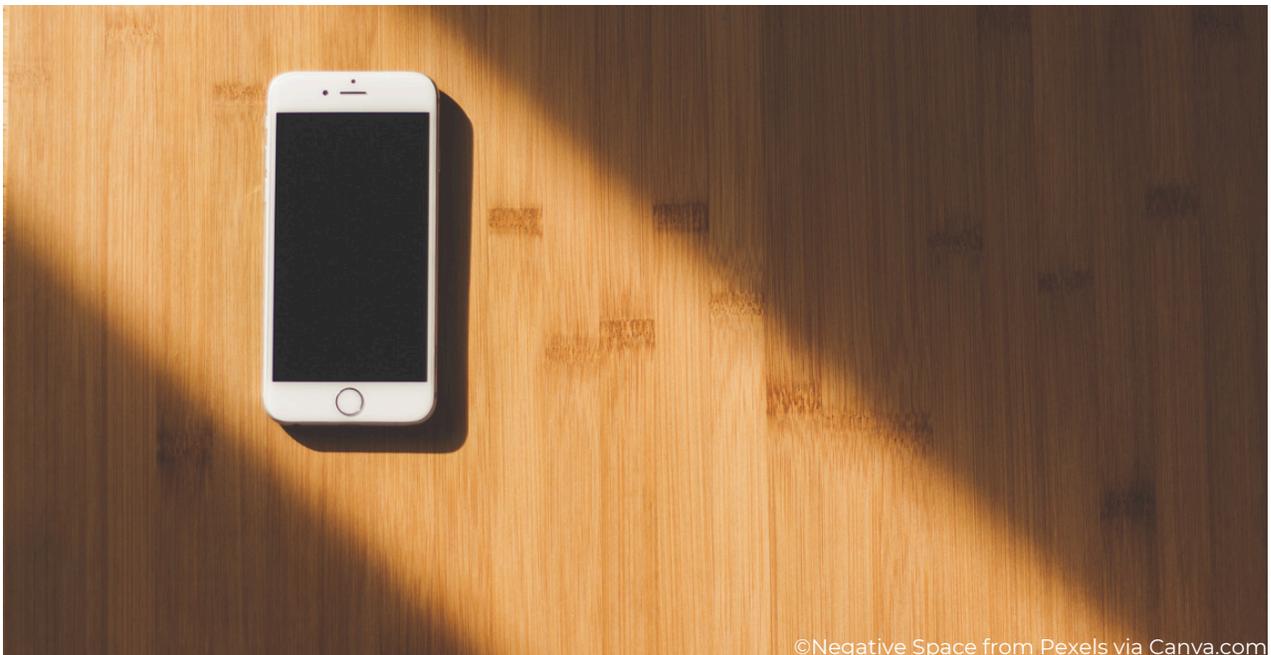
Participants felt comfortable navigating onscreen menus using the touch screen

02

Participants felt comfortable finding information about their hobbies and interest on the internet

03

Participants had low confidence in data and storage, using the calendar, managing privacy settings, troubleshooting problems and software management



Findings:

Learning as a Need

The autonomy of the participants in using ICTs was frequently constrained by a lack of digital and language competencies and a lack of opportunity to access resources to learn.

Lack of English language proficiency plays a significant role in determining access to programs and services via digital tools.

Older adults require social support to learn. If the support is insufficient, the opportunity to learn is diminished.

Even if app interfaces were switched to their language, English was required to read utility bills received through email, and mainstream information on social media sites. Participants also felt a lack of confidence in using the English touchscreen keyboard.

For example, in one of the focus groups, a few ladies described why they do not have the opportunities to learn how to use ICTs:

Zahira: Because my children are at home, I depend on them (for technology support)

Amira: You should learn from them. Do they have time to teach you?

Hana: They are not patient with us. They take the device and do it for you.

***Pseudonyms are used**

Findings: Key DigComp Areas

Information and Data Literacy:

1.1 Browsing, Searching, and Filtering Data, Information and Digital Content

To articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them. To create and update personal search strategies.

The following data illuminates participants' practices in browsing data:

Participant Findings	Key Takeaway
Farhan: You could navigate for information in Arabic, but you can't be sure that what you found is a trusted site. Likewise, if you look it up in English, you can try to translate the information online into Arabic but it won't be as easy to understand as if it were in Arabic to begin with.	In this example, we see the impact language skill plays on the ability to know and understand information found online.
Interpreter: When Farhan and Azra came, they only used WhatsApp. They now are needing to use Google, which is what they learned when they first came to Canada. They feel this would be something that would have been beneficial to learn before migrating.	In this example, we see their digital skills reflect disparities between the digital context of where participants are migrating from back home, and the digital context in Canada.
Rania: I access Facebook daily. I do not participate much but I benefit from world news, political news, religious news... whatever is new...but to take medical advice, no.	In this example, we can see that information is accessed through social media platforms. However, participants are selective about what kind of information is useful to them.

It is observed that digital literacy is intertwined with the contexts in which they are browsing and consuming digital information.

Findings: Key DigComp Areas

Information and Data Literacy:

1.2 Evaluating Data, Information and Digital Content

To analyze, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. To analyze, interpret and critically evaluate the data, information and digital content.

The following data illuminates participants' practices in assessing credibility of digital information:

Participant Findings	Key Takeaway
<p>Trusting information for Halima depends on the source, the organization, the source of the information. So for immigration, for example, she trusts Canada Immigration. Anything related to immigration, she goes to their website</p> <p>Aida: Sometimes I go to Facebook...I find food recipes... Once I found a treatment to do with vinegar...I drank a mixture of vinegar and water first thing in the morning on an empty stomach but it gave me a stomachache.</p>	<p>Here we see a range of knowledge as contrasted by these two examples. There may be some interaction about the reasons and contexts behind their search for information.</p>
<p>Shaza: Nowadays, to get the right information, sometimes I have to check more than one source and I compare the information...I exchange information with my friends and see if it's accurate. See what they've heard, so they tell me just to try to get the most accurate information ...some (friends) are here, and some are back home. It depends. Some in Egypt, some in a different country.</p>	<p>In this example we see the role of crosschecking means to assess the accuracy of the information. One such method is to utilize trusted sources such as people they know well.</p>
<p>Hamid: I know that most channels I listen to are biased to certain parties and this exists in all countries of the world... All media agencies have their own agendas and it can be hard for them to be 100% credible. Like, even I can be biased and it's hard for me to be 100% neutral.</p>	<p>This example illuminates the awareness of bias as a source of caution in this participant's regular consumption of information.</p>

Findings: Key DigComp Areas

Communication and Collaboration:

2.1 Interacting through Digital Technologies

To interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.

The following data illuminates participants' practices in interacting through digital technology:

Participant Findings	Key Takeaway
Noor didn't realize her friend requests were her friends and family as she can't read in Arabic, so she is now adding them as our facilitator reads out their names.	In this example, we notice that language proficiency in their first language is an additional intersection to consider in relation to their knowledge base, and a prerequisite to digital interaction.
Mustafa: Most of the time we speak via Video...I do not prefer writing... If I know the person, a voice message or a call Tahira: I do not know email.. I never used it. My son does all the work (government communications).	Here we observe that the participants' communication skills relate to their accustomed digital practices. There is a lack of skill in certain communications that require writing or reading literacy.
Zahira: A person doesn't only want to receive information, they want to engage with the information. Zainab: We are mute. Siham: I would like to interact with the information people send me.	This focus group excerpt emphasizes the feelings and attitudes behind digital exclusion which mediates their ability to consume and interact with digital information.

Findings: Key DigComp Areas

Communication and Collaboration:

2.2 Sharing through Digital Technologies

To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices.

The following data illuminates participants' practices in sharing information:

Participant Findings	Key Takeaway
Naveed: When I came here (to Canada) I told them (his Facebook group) what happened to me... Those who need information can speak to me... A group with a purpose, what happens to a person is shared... It was beneficial.	This example showcases a positive experience with social media groups that allow newcomers to connect and receive support.
Rania: I would post pictures of my son (on Facebook) but I don't know how to post... I go for a visit to our neighbors or friend and post it.	Here, the desire to share and interact with digital technology is constrained by digital competencies. As they cannot independently interact, they require support from others.
Karima: Sometimes there are things like Skype and Internet-related things like videocalls that I use when I talk with my kids. My wife helps me with that. I am not very good with technology because we're a bit old school.	

Findings: Key DigComp Areas

Communication and Collaboration:

2.3 Engaging Citizenship through Digital Technologies

To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.

The following data illuminates participation in society via digital technology:

Participant Findings	Key Takeaway
Amir: If I knew English, I would have followed Canadian groups on Facebook. Of course I don't know English so I have to follow the Arabic groups.	This example showcases experiences of exclusion due to language barriers. This is particularly challenging as social media platforms were commonly used to seek information to assist with settling in Canada.
Shaza: You can only connect with government services online, but it's really hard for someone my age to do that. I find difficulty in communicating and our girls help us learn what we should say to be able to talk to them, or else I wouldn't have known how to do that myself.	Essential services and information made available online may not be accessible and even daunting to interact with for participants.
Karima: My grandson phoned me from Calgary, and he said, "Oh, tell me what do you need?" I said, "I need some money." He said, "Give me your email. I will e-Transfer you." I did it once and I couldn't open it because I needed my password and the money didn't come to my account or anything because I don't have the password.	This example highlights the overlapping challenges of managing passwords and accounts on online platforms used for essential everyday activities.

Findings: Key DigComp Areas

Communication and Collaboration:

2.4 Collaborating through Digital Technologies

To use digital tools and technologies for collaborative processes, and for co-construction and co-creation of data, resources and knowledge.

The following data illuminates participants' practices in co-creation:

Participant Findings	Key Takeaway
Amira wants to know how to create a group on Facebook. The instructor is guiding her through it step by step. They are talking about private group settings and explaining how it's different from public groups. (Observation)	Some participants were keen to create their own groups to share information and combat isolation. Expanding digital skills to enable socialization opportunities was a valued prospect for many participants.
Zahira: Quran lessons on ZOOM. Siham: I am on ZOOM, we all read the Quran on ZOOM.	As observed in this focus group excerpt, some participants were already actively engaged in online group communications for topics and resources of interest and importance to them.

Findings: Key DigComp Areas

Communication and Collaboration:

2.5 Netiquette

To be aware of behavioral norms and know-how while using digital technologies, and interacting in digital environments. To adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments.

The following data illuminate how participants adhere to norms in digital environments:

Participant Findings	Key Takeaway
The instructor helped Noor sort through friend requests from two years ago and either accept or delete the requests. (Observation)	Although participants recognized how social media enables them to connect with people they know, they paid careful attention to whom they connected with online. Personal privacy and the ability to choose their connections were important to them.
Lubna has a large friend request list containing her in-laws. Although she knows them, she didn't want to add them as her friends on Facebook. She wants to keep her privacy, and noted that her husband has a large family (largest family in town), and she doesn't want them on her Facebook. (Observation)	
During a learning session activity, Karima received a harassment call with somebody yelling and cursing at her from the other end of the call. The instructor offered to block the caller for her, to which she was thankful. (Observation)	The lack of knowledge on how to limit negative experiences, combined with uncertainty about their ability to do so, may explain why some participants feel hesitant and fearful about using digital technology without adequate support.

Findings: Key DigComp Areas

Communication and Collaboration:

2.6 Managing Digital Identity

To create, and manage one of multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through several digital tools, environments and services

The following data illuminates participants' management of digital identities:

Participant Findings	Key Takeaway
Rania wants to change the Facebook workshop group she is in, and this requires learning how to change her personal information on her Facebook account. (Observation)	While participants may have a desire to accomplish a task, they might not know the necessary steps required to complete it unless someone guides them through the process.
Siham: I use WhatsApp, I go on Youtube because I know the email has an address, but I always forgetting the password, everyone helps me make a password and I mix with other variations... Ultimately I have more than one account but none of them I remember which password to it.	Due to strong password requirements, such as the use of special characters and the prohibition of reusing the same password, some participants feel ill-equipped to manage their own passwords independently, especially across multiple digital platforms.

Findings: Key DigComp Areas

Digital Content Creation:

3.1 Developing Digital Content

To create and edit digital content in different formats, to express oneself through digital means.

The following data illuminates participants' practices in creating content:

Participant Findings	Key Takeaway
A lot of the participants don't post on social media, rather they are looking at posts. (Observation)	Participants did not engage much in creating content other than taking pictures to keep on their own phones. Most of their efforts were focused on consuming information and content.

This competency did not emerge as a priority area in discussions with participants and was beyond the scope of the project to address in the learning sessions.

Findings: Key DigComp Areas

Safety:

4.1 Protecting Devices

To protect devices and digital content, and to understand risks and threats in digital environments. To know about safety and security measures and to have a due regard to reliability and privacy

The following data illuminates how participants protect their mobile devices and content:

Participant Findings	Key Takeaway
Their bewilderment and lack of awareness says a lot – perhaps they’re learning that their children have set up a lot of the functions/accounts on their phones for them and handed the set-up phone to them after so the participants never needed to deal with the set-up process and account/password management. (Observation)	This observation shows that when tasks are done for participants, they lack the experience and confidence to manage their phones independently.
Some participants didn't care for privacy. Karima had mentioned something along the lines of “I’m old now, I have nothing to hide”. (Observation)	This quote offers an interesting perspective on how aging may shape perceptions of privacy, security, and risk assessment.
Nasih had a question about passwords and asked the instructor directly. He asked about what to do when choosing password variations (i.e. using symbols) and noted sometimes there are inconsistencies of what variations to use to make passwords. It turns out he had trouble finding where to get the symbol part of the keyboard, to which the instructor was able to show him on his phone keyboard. (Observation)	For this participant, the use of special characters was unfamiliar, making password management especially challenging.

Findings: Key DigComp Areas

Safety:

4.2 Protecting Personal Data and Privacy

To protect personal data and privacy in digital environments. To understand how to use and share personally identifiable information while protecting oneself and others from damage. To understand that digital services use a “Privacy policy” to inform how personal data is used.

The following data illuminates participants' practices in protecting personal information online:

Participant Findings	Key Takeaway
Karima: I'm not capable to [manage passwords] and I write down my password. I write down my email, and the next day I forgot something or some letter. I'm not into [learning how to manage passwords], and everybody says, "I would like you to start, and you won't forget." They start [helping] me, and I [try to] learn, but then I couldn't get it because something missing.	Password management and storage were areas of frustration for participants despite knowing that they were important features for digital technology use.
Harith: I myself used to teach others how to deal with the scammers... If you got a call from an unknown number and an unknown person speaking English, just say, "No English," hang up, that's it.	Like Harith, many participants were aware of scam calls and fraud, and found ways to protect their own data in different ways.
Aida was asking if Google Photos is safe. She was worried about hacking and how pictures without the hijab would be stored. Instructor needed to explain how privacy works on iCloud and Google Photos storage which are more secure than on social media. (Observation)	This interaction is an example of how fear of compromised privacy may inhibit trust and usage of online storage solutions.

Findings: Key DigComp Areas

Problem Solving:

5.1 Solving Technical Problems

To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).

The following data illuminates participants' practices in troubleshooting:

Participant Findings	Key Takeaway
Zahira showed a notification of storage being full and expressed frustration towards how it always gets in the way of her using applications on her phone. (Observation)	Some participants shared their frustration about their lack of skills to deal with storage or file management challenges.
Learning activity: Adjust privacy settings. Participants needed to be verbally and individually guided to find the settings menu in the app. All participants changed their settings to be more private for friends' requests, even when facilitators described it in a neutral way (e.g. "you can set up this way, if you want to keep private"). (Observation)	Participants appeared to find it novel to access the settings menu and understand how to manage or customize application preferences. Being able to troubleshoot was limited due to this unfamiliarity.
Amir and Hafsa want to cancel voicemail because it is annoying and has no use. They don't know how to use it. The instructor explained that when they miss a call (for example from the doctor or the government), a voicemail is left. Amir and Hafsa said they were unaware of this and that sometimes they get voicemails even when people don't call them. (Observation)	This example highlights that unclear functions of various applications and services can make them seem more like nuisances than useful tools.

Findings: Key DigComp Areas

Problem Solving:

5.2 Identifying Needs and Technological Responses

To assess needs and to identify, evaluate, select and use digital tools and possible technological responses and to solve them. To adjust and customize digital environments to personal needs (e.g. accessibility).

The following data illuminates participants' experiences in identifying and addressing their needs:

Participant Findings	Key Takeaway
Naveed goes to YouTube or websites to search about the problems he encounters. He finds it difficult at times to do this, so he uses Google. He writes what he needs in the search box. Sometimes he uses English to English, sometimes he uses Farsi to English (for translating his inquiry). Overall, he feels he is mostly independent and can manage.	This participant showcased problem solving skills to access information while overcoming language barriers through the use of platforms like Google.
Harith: A while ago, I wanted to sit for an English test so I can get into online school but I have difficulty using the laptop.	This example underscores the importance of addressing digital competencies alongside other competencies, such as language skills.
Hamid: Of course, not a lot of people want to go back and learn at this age and start all over again. I feel like my brain doesn't accept it. For example, when my daughter tells me let's create an email for you, I tell her to just do it and leave me out of it [laughter]. Older people don't like this, I am not very motivated to learn, I feel like I'm good the way I am. Like, on the computer, maybe it's not good for my eyes or my body to sit for a long time. Maybe I'll get tired. I don't know, maybe it's a thing for all seniors, they like to run away from all this new technology.	In Hamid's case, negative perceptions about learning and adopting digital technology may stem from factors such as motivations, concerns about negative health outcomes, and feeling overwhelmed by the process of acquiring technological skills.

Findings: Key DigComp Areas

Problem Solving

5.4 Identifying Digital Competence Gaps

To understand where one's own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self development and to keep up-to-date with the digital evolution

The following data illuminates participants' practices in seek opportunities to improve their skills:

Participant Findings	Key Takeaway
Halima doesn't bank online. She'd like to learn how to do it. She said that's one of the things she'd like to learn. "Anything that's done on the phone, I'm in great need to learn it".	Like Halima, other participants expressed a desire to fully master the use of mobile devices.
Asim expressed that he doesn't fully know the importance of email... After chatting with the instructor, he learns that he can open emails on a computer and not just his phone. He appears bewildered that it's possible to do that. However, his son has the password to the email, so he is learning that he needs the password in order to access emails online. (Observation)	Participants may lack awareness of what they can learn, making it crucial for them to discuss digital technology use with others as they start their journey toward independent digital literacy.
Salima: I don't know about email...and there is no one to help us, we do not have children here, they are all in Syria and Jordan and Lebanon. Interviewer: When you have a question, who helps you? Salima: We take it to the mosque or to someone we know... We don't have neighbors we know Amina: They are all Canadians.	Continued face-to-face support is essential for acquiring and mastering digital technology skills. This can pose significant challenges for individuals who feel isolated or lack accessible support networks.

Findings:

Learning Process

The processes which were most important for the learning program success related to the equal incorporation of the following considerations

Peer Support & Learning

- Higher-level users mentored others experiencing difficulty, and provided additional translation support at times
- Social engagement and peer support were fundamental for continued participation and enjoyment

Incorporation of Participant's Interests & Attitudes

- Learning skills to support local integration was important to participants
- Utilization of a flexible learner-centered approach meant dedicating time to individualized support for unique learner needs

Attention to Factors that Limited Learning

- While the instructor was prepared for both iOS and Android OS phones, the different phone models, button locations, application interfaces and storage availability were obstacles that required one on one hands-on support
- It was critical to attend to physical needs (e.g., vision, hearing, tremors, memory)
- Emotional support was fundamental to overcome learning-induced frustration and anxiety

Conclusion

In our rapidly advancing society, digital competence is crucial. It is essential to acknowledge the learning needs of older immigrants in order to prevent them from being disadvantaged by limited digital skills and language barriers. We know that:

01

Older immigrants in this study believed that ICTs enhance communication and provide access to resources, which proves beneficial at every stage in their life.

02

The older immigrants included in this study expressed a strong desire to independently interact with digital information and platforms.

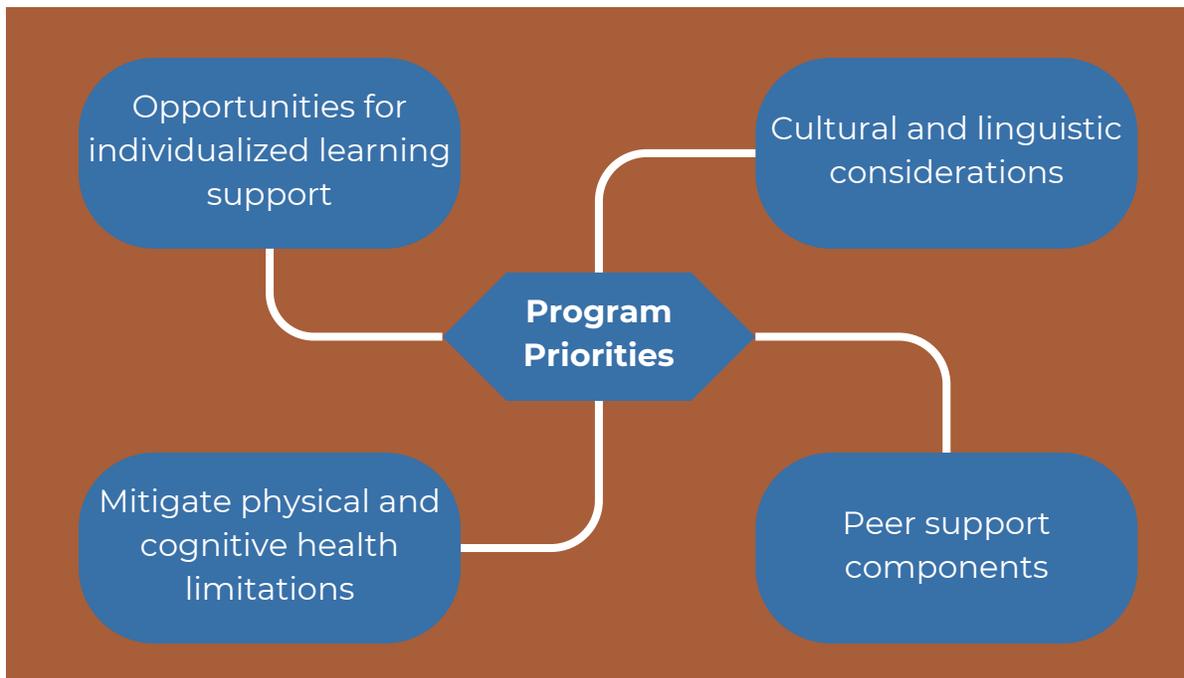
03

Accessibility to digital support, both in formal and informal settings, was fundamental. By offering affordable group education programs, we can empower older immigrants to fully participate in the digital world.



Recommendations

Community programs and services should carefully consider the *logistics and resources required to facilitate group sessions for older adults with varying levels of language and digital literacy.*



Government & Policy Recommendations

- 01** Allocate **sustainable funding and resources to programs** and services that cater to the unique needs and difficulties faced by immigrant older adults in accessing and utilizing technology.
- 02** Conduct **frequent research and collect data** on the experiences and obstacles encountered by older adults from **various linguistic and cultural backgrounds** when it comes to technology access and usage.
- 03** Offer **incentives and grants to grassroots organizations** that are currently lacking funding. These organizations assist immigrant older adults and their communities by providing technology and digital services, delivering both formal and informal assistance and training.

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