PRACTICE-BASED ARTICLE

Partnering with Older Adults for Digital Research Tool Development: Demystifying an Engaged Research Process

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Abstract

The inadequacy of traditional research methods, underscored by the COVID-19 pandemic, highlighted the urgent need for innovative approaches, particularly to research involving older adults. This article reflects on the complexities of establishing and sustaining research partnerships with older adults for digital research tool testing and development. The article offers an explicit report of the outreach process for holding researchers accountable and demystifying the research process.

Keywords

Mobile Technology; Community-University Partnership; Older Adults; Digital Research; Community-Based Research

Introduction

This article reflects on a research initiative aiming to explore the usability of a digital research tool – PhoneMe App – with two groups of older adults in Toronto, Canada. The development of the app was one of the many iterations of a larger PhoneMe Project (www.phonemeproject.com). Launched in 2016 as a community literacy research initiative of the University of British Columbia (Vancouver, Canada), its purpose was to construct a poetry-centric, digitally mediated map of diverse neighbourhoods across the globe ([Balyasnikova & James 2020](#)). The project now has research teams working in several Canadian universities to explore the value

of places and spaces in people's lives through trans-modal poetry (Ahn et al. 2023; Horst et al. 2023). In the early days of the project, the community work was conducted in person through poetry writing workshops with amateur and professional poets to collectively explore the physical spaces around them. With the onset of the COVID-19 pandemic, the in-person aspects of PhoneMe work were halted, necessitating a shift to online platforms for all community outreach activities.

From 2020, we worked to harness the potential of smartphones as a new methodological pathway for qualitative research. The research team from the University of British Columbia developed a free PhoneMe mobile app, as an extension of the original digital map. Available on smartphones and tablets, the App has four main functions: Explore (the map view), Create (add the poem to the map), (user) Profile, and Search (specific poems). The interactive world map in the App displays pins identifying the location of poems, and clicking on a pin opens the image of the location, the text (and sometimes a voice recording) of the poem, as well as the author details and relevant copyright information. The App also has 'like' and 'save' features, but no instant messaging between users.

Smartphones can be used as powerful tools for data generation and analysis (Auld et al. 2012; García et al. 2016). However, the integration of smartphones within research requires careful consideration of user-friendliness and software compatibility. When working with older adults, the digital divide needs to be considered, as access to technology remains heavily influenced by socio-economic factors (Yoon et al. 2020). In response to the disruptive effect of COVID-19 on active community-engaged research, we decided to evaluate the usability of PhoneMe App during this time of social isolation and distancing. To do so, we trained diverse participant groups to generate multimodal data via the PhoneMe App, and together explored the potential for application of mobile technology to qualitative research. Three research teams worked with different research participant pools across Canada (Indigenous youth, undergraduate students and teacher candidates, and older adults). Although work across the three sites shared the same primary research objective, in Toronto we also hoped to use this project to establish new research partnerships with service providers who worked with older adults. We were interested in working with older adults because digitally mediated research with them comes with significant challenges (Sharma et al. 2022). Older adults find themselves on one side or the other side of the digital divide (Hall et al. 2015; Seifert 2020; Wu et al. 2015) and digital ageism (Chu et al. 2022). In addition, older adults had not yet participated in PhoneMe research, and we hypothesised that they would engage with poetry writing and the PhoneMe App in ways that younger populations may not.

The value in establishing strong partnerships with older adults is recognised across disciplines (Black et al. 2015; Dibartolo & McCrone 2003; Doucette et al. 2023; McNeil et al. 2016; Moreno-John et al. 2004). In their review, James and Buffel (2023) note that involving older adults in research is crucial to addressing complex issues facing this population, as older adults' direct experiences can help to improve the services available to them (Fudge et al. 2007). Moreover, as co-researchers, older adults gain new skills, build networks and challenge societal inequalities (Fenge 2010). Some studies (Dong et al. 2011; Sabir et al. 2009) highlight the importance of integrating diverse perspectives, including those of practitioners, researchers and community members, in addressing issues such as social isolation of older adults and cultural nuances. For example, Sabir et al. (2009) argue that different perspectives need to be integrated within the development of consultations on research priorities regarding social isolation among older adults, underscoring the importance of multi-faceted community-university partnerships. Dong et al. (2011) emphasise that academic researchers need to engage through dialogue and learn from community expertise, particularly in understanding cultural and linguistic nuances. These studies highlight the necessity for valuing community input and expertise when shaping research agendas and interventions. However, there are challenges that researchers face in establishing partnerships involving older adults, such as recruitment and retainment of participants (DiBartolo & Crone 2010; Indorewalla et al. 2021), access and mobility (Rigatti et al. 2022), life stage (Mackin et al. 2009) and mistrust in research (Moreno-John et al. 2004), to name a few. These

studies collectively illustrate the need for diverse approaches to the development of university-community research partnerships and the benefits of such collaborations in addressing issues faced by older populations, such as social isolation, lack of well-being and empowerment, and the quality of mental health services for older adults.

In this article, we aim to demystify the process of forming and maintaining community-university research collaborations that involve older adults and mobile technology. We also aim to contribute to discourse on the importance of flexible practices that consider the diverse needs of all partners, even if they diverge from one another and the original research design. In doing this, we draw on the following sources of data: (1) our observations of the process; (2) field notes from the debriefing sessions that follow each workshop; and (3) recordings of the group interviews that took place after the workshop series was completed.

Navigating different partnerships

Finding available community partners was a challenge that took several months. Not only was it important to find community groups whose own needs and interests could be addressed within the PhoneMe Project, we were also hoping to work with people over 65, which further limited our pool of potential partners. We thus reached out to community groups that we had worked with in the past and connected with our university's knowledge mobilisation unit for referrals. We also approached several community service organisations, but like many of these since the COVID-19 pandemic (Verma 2021), they had little capacity for additional projects. Ultimately, after making a list of senior-focused programs in Toronto, emailing each organisation and following up with zoom calls if they expressed interest, we found two seniors' community groups who chose to engage with us.

Our first community partner was a senior group within a non-denominational church in Toronto that serves approximately 200 families and promotes inclusivity, community outreach and social justice. To people who are 55 years old or older, the church offers free virtual and in-person activities, such as chair ballet, egg painting and memoir writing. The church group asked us to work with two different groups: a memoir writing group and the general community. Seven members from the memoir writing group registered for the one-off PhoneMe App workshop and four members from the wider 55+ community registered for the poetry writing workshops. Most of the members were White English-speaking women.

The second community partner was a non-profit, multicultural community-based organisation that offered educational, employment, social and settlement services for immigrants and newcomers to Canada. This immigrant services organisation provided many services and training programs for older adults. The seniors' group we connected with met regularly for in-person educational events, physical activities and social gatherings. The immigrant services organisation's seniors group agreed to use the PhoneMe App to augment an existing in-person digital literacy program with 12 participants. Most of the members were Italian first-language speakers with varying degrees of proficiency in English.

The need for prior consultations on the resources available to the community members became clear from the early stages of the research partnership. We had introductory Zoom calls with the program coordinators, who delineated the specific needs and objectives of their constituencies. These preliminary conversations were integral to formulating a cooperative framework, and establishing a research relationship and the requirements for testing and evaluating the PhoneMe App. We also believe that the foundational rapport we established with the community coordinators set the tone for the development of relationships with the community members themselves, and also because we had an insider member of their community who facilitated our work.

We initiated a dialogue so that we could understand the barriers the seniors might face during the research process. We learnt that the potential research groups were quite diverse, ranging in age, socio-

economic status, facility in speaking the English language, ethnicity, race, gender and education level. Many workshop participants did not have digital devices at home, so they could not practise outside of the weekly sessions when iPads were provided by the community organisation. For those who had access to devices, there were other issues. Some did not have anyone at home who could step in when they needed assistance with technical issues, and some senior women complained that their children controlled their accounts and did not share log-in credentials as a form of protection from potential fraud.

The original research design included just one introductory workshop, followed by a survey on the functionalities of the app and a focus group on user experience as participants engaged with it on their own for a month. We did not anticipate holding a series of workshops on a range of topics. However, we were continually reminded of the necessity for flexibility, a concept that was emphasised in the literature (Israel et al. 1998). We were immediately faced with a need to redesign the research design so that it would respond to the needs of the research participants and the partner organisation (see Table 1 for details).

Table 1

Location	Group	Engagement formats
Church	Memoir writing group (pre-existing group)	Via Zoom. A single introductory workshop followed by individual unguided use of the PhoneMe App by the participants. Survey and focus group to generate data for the research.
	General membership (registered for the project)	Via Zoom. A series of poetry-focused workshops using the PhoneMe App at the end of the series. Survey and interview to generate data for the research.
Immigrant services organisation	Immigrants from (primarily) the Italian community (pre-existing group)	In person. A series of iPad training workshops. One in-person focus group to generate data for the research.

We took several proactive steps to ensure a smooth workshop experience for the community partners. First, we recognised the diversity in literacy levels and expectations within our user groups. We understood that a one-size-fits-all approach would not work, so we made sure to customise the content and pace of each workshop to match the participants' specific requirements. This meant that those who needed more time to grasp certain concepts or features had the flexibility to do so without feeling rushed, while the more experienced users could delve straight into the app. Furthermore, we recognised the importance of clear and concise instructions, so we took the time to refine and simplify our instructional materials and prompts to ensure they were easily understandable by everyone, regardless of their prior digital experience.

In the first location, we worked on Zoom with two separate groups: a memoir group and a poetry writing group. For the memoir group, we delivered an introductory workshop and led participants through a series of interactive activities designed to help them explore the App. Our intention was to prepare them to use the app on their own after the workshop and then collect feedback via a survey a few weeks later. Of significance was the wide range of technical skills among the group. Therefore, as we prepared to meet with the second group at the site – a poetry writing group – we changed the design to create a series of iterative workshops that balanced App training with a guided discussion of poetry.

For the second group, each workshop included a creative writing exercise that invited participants to experiment with the discussed poetic genre. While we introduced the idea of the PhoneMe App at the

beginning of the workshop series as a tool for facilitating digital exploration of poetry, poetry writing itself was the central focus of each session. At the end of the workshop series, feedback on the App was solicited, with a focus on whether the app enhanced poetry writing skills, its usability, and its relevance to participants of different literacy levels and socioeconomic backgrounds. This blended approach of workshop facilitation and feedback solicitation underscored our commitment to reciprocity within the community-university partnership framework. Additionally, the group interview served as a formal, yet friendly way to conclude the research project.

At the second research site, our strategy was to align with a pre-existing digital literacy program centred on iPad use. The incorporation of the PhoneMe App within this program was presented and received as an opportunity to further older adults' digital literacy skills while concurrently gathering senior learners' input on the App's functionality. We delivered four sessions, each of which included an activity to explore a different aspect of digital literacy and iPad use, and a poetic exercise that culminated in engagement with the PhoneMe App. Participants were encouraged to provide feedback that could inform improvements to the App's design and application. At the end of the workshop series, we ran a large focus group. To accommodate varying degrees of English proficiency among the immigrant services organisation group, the seniors group program coordinator translated the main interview questions into Italian. Before the group interview started, we shared printed copies of the questions in both Italian and English with all members. We then sat in a circle and placed a recording device in the middle. One researcher asked and elaborated on the questions when necessary. The coordinator interpreted when needed, and everyone had ample time to respond to the questions and discuss their answers with each other.

Navigating Formats of Collaboration

In accordance with the guidelines set forth by Remley (2012), our approach to the workshop design and delivery was predicated on the ethical imperatives of respect and reciprocity. The reciprocal nature of the workshops, offering valuable skills and knowledge to the community while gathering critical user feedback on the App, epitomised our ethos of community-based research. We hoped to ensure that the workshops were not merely extractive, but also served as a mutual exchange, honouring the time spent and contributions of all participants. The nature of our relationship, and the skills and needs of the workshop participants, determined how we together produced knowledge.

A significant lesson for us emerged from the nature of our research partnership. As stated, our goal from the start was reciprocal collaboration. By working closely with the coordinators to develop and deliver workshops that met the needs of the group, we believed we could create an atmosphere that levelled power differentials and supported collaborative participation. Despite yielding opportunities for sustainable change, such participation was less common because it required that all members be involved from the beginning. Some project parameters, such as our goal to learn about the community members' experience with PhoneMe, were pre-determined by the researchers (us). For example, we expected that the participants would be able to proceed with the app and assignments without our help. Other parameters, however, were determined in collaboration with the program coordinators. These included the mode of delivery (e.g. in person versus by Zoom) and the best way to incorporate the PhoneMe project into the programming (e.g. as a unique set of workshops or incorporation within an existing program). These parameters were determined with the community members in mind rather than *with* the community members.

However, the community members led how we engaged with each other in the process. The participants at both sites referred to our sessions as school, not as a research project. For example, during a group interview with church group participants, in response to a question we asked, 'Would you tell people about the app outside of this little project?', one participant replied:

Well, I haven't really done that unless somebody asked me if they say, you know, if I say I'm going to poetry class, and they say well what's all that about. And then I would explain. You know what they do, and then I'll show them the app, and then um but I'm gonna and I don't really. Unless it comes up in a conversation, I'm not gonna bring it up. It's just it's like school, a class, a study.

Although participants maintained the project-as-school metaphor by talking about doing homework after the workshops, many did not actually do any work between sessions. The participants spoke positively about doing work post workshops. For example, in the immigrant services group interview, one participant used the phrase 'going to school' to refer to our collaboration and emphasised the choice to attend school over other commitments. She said:

my family, too, they say, my grandkids, Grandma, you going to school today? I said, Yes. And my son, Mom, you going today? I said, yes. I'm not doing anything, I'm going to school, don't tell me nothing.

The mode of delivery we agreed to (facilitating workshops) placed us and the workshop participants in the roles of teachers and students and did not result in the equal partnership we had envisioned when we set out to collaborate. However, it was within this dynamic that the community members directed how deeply we were involved with them and kept us in the teacher role. We believe that even if we had had time to invest more into building the relationship with the community partners, and to work with the community members to develop our methods together, the community members might still have chosen to frame the research as purely an educational opportunity. They exercised agency in how they asserted themselves as well as in the formation of our relationship. They wanted us to know them, but they also kept us in an external role. During each session, the community members set the scope of the discussion. Deviating from the research questionnaires, they shared about their first years in Canada, their grief over lost loved ones, their need to practise their tech skills, and their belief in God. We noted that the community members had close relationships with each other. They were in the deep end together, and they invited us to join them in the middle of the metaphorical pool, in which all our feet could still touch the bottom. In our debrief, we noted: 'Privilege/power is that we are writing about the participants, crafting the research narrative. But in the moment with them, we are in a service position. Their lives don't ride on this. They don't have to perform 'vulnerable senior' to get the service.' Ultimately, participants set their own objectives and expected outcomes regardless of what we were trying to achieve during the workshops.

Navigating Technical Issues

We faced several unanticipated challenges when using a mobile app with older adults, which prompted us to pivot significantly in how we delivered the workshops. For example, the remote nature of the workshops for the church group had an impact on the process. Initially we had planned to ask participants to join individually on Zoom from their own spaces; however the members of the poetry writing group found it easier to navigate the PhoneMe App when they were physically together in the same room joining Zoom on one computer. Among those participants who were less affected by the digital divide, we still noticed issues of digital illiteracy. The participants described feeling 'stuck' and at a 'standstill' when encountering a challenge uploading their poems. As we wrote in our debriefing notes, these 'glitches were not seen as opportunities to explore further'. Similarly, in one of our reflections on working with the immigration services group, we wrote:

the participants were getting frustrated. B kept thinking he did something wrong. When something glitches, the assumption is they did something wrong, not that there's a problem with the app.

The app design itself assumed a certain level of digital literacy. At both sites, participants, even those with a higher level of digital literacy, found navigating the app difficult. In our debrief notes on March 31, 2023, we observed 'There are just too many steps for seniors. First name, last name, username, email, password, verify, username. For people with such low digital literacy and literacy levels, we can't just drop in and use the app as the research method. How much of their experience is about digital literacy at any age vs being older adults. We are at the intersection of the two.' Despite the above-mentioned challenges, the participants – particularly those in the iPad training group at the immigrant services organisation – considered any digital training as an opportunity to improve their digital skills. Research participants indicated that their lack of digital skills limited their ability to access information or resources. As a result of the challenges that participants experienced in the introductory workshops, we significantly modified both the format of the following workshops and how we delivered them. We conducted a series of workshops rather than just one introductory session, allowing participants more time to become comfortable with the iPad as a device. We then conducted sessions to provide more focused and intensive support with the app. Additionally, we modified the topics covered in the workshops: one session concentrated on improving digital literacy, while another explored poetry as a genre. We hoped that these modifications would lead to a more effective workshop experience.

Lessons Learned

In reflecting on our engagement with diverse groups, we identified several key insights for future research partnerships, specifically related to community-based projects involving the use of mobile technology by older adults. Mainly we identified a profound need for flexibility in response to technical challenges and the changing nature of relationships with different partners.

First, we needed to be prepared for unanticipated technical challenges. Advanced consultations on the digital resources available to the community members outside of the community spaces needed to be addressed early on. Indeed, recognising and addressing the diversity in literacy levels and expectations was crucial, and as a result we had to customise the workshops' content and pace by offering explicit digital literacy training beyond the app itself. We also needed to make significant adjustments, especially given the varying digital literacy levels among research participants. Ideally, we would have simplified the app design and log-in instructions, and provided foundational digital literacy training. In lieu of this, we focused on gradual skill-building, based on feedback from the participants. We consider the technical barriers presented by digitally mediated research to be one of the biggest obstacles we need to navigate.

Second, navigating a multi-objective site and delivery presented a set of challenges, especially when working with groups with varying motivations and needs. We thus identified a need for flexibility and adaptability of research protocols. For example, at the second research site, we integrated the Phoneme App research within the iPad literacy curriculum. We also found that we needed to let go of the pre-planned research protocol that we thought would be an efficient way to work with different groups, and instead flexibility and adaptability became central to our work. Thirdly, we identified the importance of reflexive engagement and the need for us, as researchers, to be comfortable with ambiguity and potentially changing priorities when the research partnership did not align with what had been envisioned. While we considered the importance of mutual benefits and transparent informed consent, we did not expect what roles participants would assume in the research, such as leading discussions in workshops and contesting workshop formats or our ideas, such as on the different genres of poetry.

The primary necessity for our partnership came from us, the researchers, not the community. We must acknowledge that introducing the predetermined PhoneMe project contributed to a more superficial setting for participation. However, we also note that the community partners recognised the relationship as primarily transactional, to enhance their programming, and the research participants viewed it as an

educational opportunity to learn something new. Although equal participation was something we strived for, it was not possible. Both researchers were much younger than the participants, which was one characteristic that may have prevented us from relating to these seniors as equals. Mitigating power differentials is an important aspect of both community-engaged and community-based research (Taylor & Ochocka 2017), and collaborative research projects can benefit when the distinction between researchers and community members is blurred (e.g. Balyasnikova & James 2020). However, it is important to remember that community members sometimes wish to retain their boundaries, and we must respect this. Our community members asserted their agency in how they contributed to, and how they participated in, the dynamics of our relationship. However, while unanticipated and at times uncomfortable, these dynamics revealed deeper insights and fostered trust among all members of the research process.

Conclusion

This article joins the global dialogue on the role of community-university partnerships and the intricate dynamics of forming and maintaining research relationships using digital apps, particularly when using tools intended for older adult demographics.

University-community collaborations can offer a fertile terrain for mutual learning and a space to address broader societal and structural challenges (Suarez-Balcazar Harper & Lewis 2005), as well as support community development (Zimmerman et al. 2019). Research planning needs to emphasise inclusion of community voices in the research process (Compare, Albanesi & Pieri 2022), position communities as equal partners in this process (Bromley et al. 2015) and focus on the development of tailored solutions (Winfield et al. 2022). From a community perspective, the success of research partnerships lies in the tangible benefits to the community itself (Carrión-Mero et al. 2021) and emphasises the value of partnerships in research more broadly.

From this research project, we gained insight into the challenges of engaging older adults in the use of mobile app technology as a research tool. Drawing on our research experience, we support the proposition that research protocols need to be both flexible and adaptable. Prior to beginning such work, researchers and community partners need to hold in-depth consultations on the resources available to community members. It is also vital that researchers maintain a reflective approach to engagement, particularly if the direction of the research partnership deviates from the original vision.

To further methodologies of community-university research, our partnership created a liminal space dedicated to research and education. Furthermore, while we worked to achieve a pre-established learning objective, our approach diverged from conventional school-based benchmarks. As such, we claim that, despite the challenges, the research partnership created a unique hybrid zone where the process of researching and learning transcended traditional boundaries. This educational research approach was neither exclusively ours nor the participants. Rather, it blended various perspectives that embodied a novel form of learning and research that challenged and redefined conventional educational norms. Future similar research projects could consider incorporating technical support and co-design for community members to ensure a holistic approach to digital literacy and adaptive research frameworks responsive to the needs of older adult participants. Building on these insights, we will continue examining similarities and contrasts in the use of apps by older adults and other age groups.

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