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Developing a Training Program for Digital Literacy Coaches for Older Adults: Lessons Learned from the Train-the-Trainer Program

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Abstract

Social isolation and loneliness are critical issues facing older adults. The COVID-19 pandemic increased isolation among this population, and digital technologies are considered a significant lifeline for older adults adhering to social distancing guidelines. Research has shown that lifelong learning and maintaining social connection during the senior years leads to positive health outcomes. The digital literacy training program addresses isolation and loneliness issues and promotes lifelong learning among older adults. The program's delivery is a train-the-trainer (TT) model. In the TT model for this study, volunteers facilitated eight digital technology lessons after receiving training on adult learning principles, working with older adults, and teaching technology strategies. This article aims to share the results from the TT process and the curriculum implementation from the volunteer trainers' perspectives, called coaches, who participated in the pilot program. The coaches' feedback and the observations made by the researchers offer essential insights into the design and development of a TT model for a technology training program for older adults. The findings suggest improvements for the curriculum and the TT model, including equipping the coaches with tablets at the beginning of the training, providing extended video conference practice, increasing technical support on-site, and expanding step by step instructions for training guides.

Keywords: lifelong learning, training development, train-the-trainer, digital divide, digital literacy curriculum, older adults

1. Introduction

1.1 Social Isolation and Loneliness Among Older Adults

Social isolation has been an issue of increasing worry for older adults, primarily due to the ongoing COVID-19 pandemic (Berg-Weger & Morley, 2020). Before COVID-19, aging advocates considered isolation and loneliness as severe issues concerning older adult communities (Morrow-Howell et al., 2020). Research has shown that there are connections between adverse health outcomes and declining social relationships for older adults (Berg-Weger & Morley, 2020; Cacioppo & Cacioppo, 2014). Loneliness is continuing to be a growing public health issue. Cacioppo and Cacioppo (2018) suggest that loneliness is "a condition that makes a person irritable, depressed, and self-centered, and is associated with a 26% increase in the risk of premature mortality" (p.426). Social workers and gerontologists are calling for increased attention to loneliness due to the associated negative health outcomes. During the COVID-19 pandemic, older adults have experienced stricter social distancing, being the first group encouraged to stay home. Daily activities that older adults relied upon for social connection, including meal delivery, exercise classes, and family visits, have been interrupted due to the pandemic. These extended periods of isolation could add to the adverse health outcomes that older adults were already experiencing from pre-existing loneliness and isolation (Haeussler, 2020). During the pandemic, there has been an increase in information communication technologies to maintain connections during mandatory social distancing (Berg-Weger & Morley, 2020; Morrow-Howell et al., 2020). The pandemic presented an opportunity for older adults to improve their use of technology to stay connected to the outside world (Morrow-Howell et al., 2020). Many older adults and facilities serving this population increased the use of digital technologies to maintain daily life. Information communications technologies (ICT) helped older adults maintain connections to family, exercise classes, and church services (Finn, 2020).

1.2 Benefits of Information Communication Technologies for Older Adults

In a systematic review of studies on social isolation and Information Communication Technology (ICT), Chen and Schulz (2016) suggest that ICT reduces the elderly's social isolation in four ways: connecting to others, participating in activities, receiving social support, and improving self-confidence. Fang et al. found that ICT improved older adults' physical

well-being, aged 75+, primarily when connecting with family members (2018). Maintaining a healthy lifestyle includes having social connections and inclusion (Vaillant, McArthur, & Bock, 2010). The COVID-19 pandemic has increased reliance on technology for socialization, causing older adults to be at a greater risk of losing connection to the world around them. At the Himan Brown Senior program in New York City, they transitioned in-person classes to distance delivery using Zoom video conferencing. The remote class offerings acted as a lifeline for seniors, even if there was a steep learning curve (Finn, 2020). As participants adapted to the new class format, many found that they were becoming more socially active than before the pandemic. The pandemic driven push to learn new digital technologies presented a silver lining for older adults (Finn, 2020), replacing in-person contact for many; however, access to digital technologies varies among the aging adult population (Morrow-Howell et al., 2020).

1.3 The Digital Divide Among Older Adults

A recent survey of older adults suggests gaps in technology use among this population and that these gaps can further social isolation during the COVID-19 pandemic (Haeussler, 2020). Digital technologies have become more prevalent in our society to maintain connection and engagement (Sharma, 2020). Technology access and inclusion are essential for society's participation for all age groups, especially during social distancing. Technology and internet use are increasing among older adults; however, there is still a digital divide. The term digital divide describes the inequities between people who have access to computers and the internet and those who do not (Merriam-Webster, n.d.). "Many seniors who are older, less affluent or with lower levels of educational attainment continue to have a distant relationship with digital technology" (Andersen & Perrin, 2017, p.5). Some older adults that have an interest in digital technologies may lack access and training. In this case, the digital divide still exists. Access to the internet and digital technologies is the first level of the digital divide. The "second-level digital divide" concerns a lack of digital literacy, a deficit of internet skill, and effectiveness (Tsai, Shillair, & Cotton, 2017). Digital literacy, or the ability to operate digital devices to retrieve and understand information (Gilster, 1997), is essential for successfully navigating daily life in a digital society. While digital technologies (DT) have become more prevalent in older adults' lives, barriers still exist that prevent many older adults from fully engaging in the digital world. Reducing these barriers and promoting digital technology for older adults is essential for continued full participation in society. "Their use of DT clearly enables these older adults to overcome physical barriers such as distance, personal mobility, limitations of time, prohibitive weather conditions, and the move from physical to online access to opportunities" (Hill et al., 2015, p.419). Although DT use shows benefits for older adults, technology use in everyday life is still lacking. One factor that prevents ICT use is a deficit of training, designed for older adults, to use these rapidly advancing technologies (Pachis & Zonneveld, 2019).

1.4 Digital Literacy Training to Address the Older Adult Digital Divide

Older adults report that they are interested in technology, and their ability to set up and navigate digital devices limits their progress (Anderson & Perrin, 2017). Increasing use of digital technologies could address issues of loneliness and isolation. The challenge is that there are deficits in training available for older adults when using the internet and digital technologies. One method for addressing the gaps in technology training is to develop ICT training specifically for this audience (Frank, 2018). Training should be designed in line with seniors' goals, experience, and abilities to reduce anxiety and to increase motivation (Gonzalez, et al., 2015). A recent study on ICT use and older adults living in continuing care retirement communities found that residents that took part in an 8-week ICT training were less likely to stop using ICT's (Rikard, et al., 2018). Another study on computer use during a 20-hour training targeted to older adults indicated that "direct contact with computers generates more positive attitudes toward computer use and also positive relationships with attitudes, user behavior, training expectations, and self-confidence" (Gonzalez et al., 2015, p.1).

1.5 Train-the-Trainer (TT) Model for ICT

For the ICT training in this study, a TT approach was selected to quickly teach trainees, with diverse background knowledge, about digital technologies, adult learning, and strategies for working with older adults. The train-the-trainer (TT) model prepares new, less experienced trainers by providing instruction on facilitation, effective delivery of presentations, group engagement, and other aspects of delivering workshops (Centers for Disease Control and Prevention, 2019). Public health and other initiatives rely on train-the-trainer models, using a network of trainers to deliver information across different contexts. “A train-the-trainer (TTT) model is frequently used in business, education, and interventions to disseminate knowledge and skills. Master trainers teach curriculum content and the process of delivering the course to instructor-trainees, who are then charged with delivering subsequent training programs to target groups” (Cross et al., 2010, p.3390). In a study of the effectiveness of a TT model for overdose prevention programs, Madah-Amiri, et al., (2016), found that the TT method effectively increased knowledge, self-efficacy, and promoting a positive attitude among the TT participants. A TT approach is useful when the people delivering the program are not subject matter experts. A TT model effectively prepares novice trainers to deliver the curriculum to the intended audience (Madah-Amiri, et al., 2016).

2. Method

The TT program is part of an action research study to design a digital literacy curriculum and training program for older adults. This study is part of a digital literacy and technology training program called NeverTechLate (NTL). NTL is an organization dedicated to promoting lifelong learning and reducing isolation among older adults through technology access and training. In the NTL pilot study, the researchers developed an 8-lesson curriculum about using digital technologies to connect to others. This curriculum pilot took place with two groups of older adults living in an independent living center in Pennsylvania. Graduate student volunteers were recruited from an education and training program to participate in the TT process and deliver the curriculum to the independent living center's residents. The researchers utilized a practical action research design to evaluate the trainers' training program's effectiveness (Mills, 2018). The research's focus is to gain feedback from the training program participants regarding the preparation they received. This feedback will be instrumental in developing the action plan to improve the TTT program's efficacy and strengthen the delivery of the NTL program. The trainers who facilitated the NTL class sessions were called "coaches." Upon completing the 8-lesson NTL class series, the researchers conducted a focus group to evaluate the TT model's efficacy in preparing the coaches to teach the digital literacy training program for older adults. The research questions guiding this study are

1. What are the perceptions of the trainees regarding the adequacy of the TTT program?
2. What challenges and successes were experienced by the trainees while facilitating the NTL digital literacy program?
3. How can the TTT program improve to meet the needs of the trainees?

2.1 Participants

Graduate students in their second semester of an instructional design program at a University in Pennsylvania were recruited for this study. An email was sent to 20 graduate students in the instructional design program to invite them to participate as coach-trainers for the NTL project. Four graduate students volunteered to participate in the pilot study as facilitators of the 8-lesson course series on digital literacy skill development. The student volunteers were notified that they would be participating in a research study and were provided with informed conset regarding the risks, benefits, and their rights to withdraw participation at any time. The participants were called "coaches' in the TT project, and they participated in weekly, 1-hour training sessions focused on teaching technology to older adults. Four (4) student coaches participated in the program and two (2) lead facilitators assisted with the 8 TT sessions. The student coaches and the older adults participating in the program were informed that they would be taking part in a research study. Approval for research with human subjects was obtained from the Institutional Review Board and all study participants completed informed consent documents at the beginning of the pilot study. All participants were informed of their rights to not participate and to withdraw from participating at any time.

2.2 Study Design

This action research study is part of the NeverTechLate digital literacy curriculum pilot. The project's focus is to evaluate the train-the-trainer program and its effectiveness in preparing the trainees to deliver the NTL curriculum successfully. NeverTechLate is designed as a train-the-trainer (TT) program to facilitate the use of digital technologies among older adults to maintain connections to the rapidly expanding digital world and improve life quality. The data collected in this project will inform the action plan for revising the trainee preparation program and curriculum. The trainees' feedback will also help to evaluate the delivery of the NTL curriculum to older adults by identifying areas for improvement.

The NTL curriculum was developed as a pilot study through a needs assessment process to identify the course content and delivery format. A focus group guided the curriculum design with ten older adults from an independent living facility in Pennsylvania. The focus group with the independent living center residents provided feedback to the researchers regarding their experiences, interests, and concerns related to digital technologies. The residents, staff, and student coaches participating in the NTL curriculum pilot study have given their permission through informed consent to participate in the research study. Based on the residents' feedback and to address issues of social isolation and loneliness, the classes focused on using tablet computers, navigating the digital world, and connecting to others using video conferencing.

2.2.1 TT Program

The NTL coaches recruited to deliver the classes participated in weekly 1-hour training sessions. Each training session included discussion about working with older adults, adult learning principles, and facilitating technology skills among class participants. The coach training sessions were led by a trainer with advanced experience teaching older adults and delivering lessons focused on digital technologies. The coaches were provided with a training guide that included lesson narratives, teaching tips, technology information, vocabulary, homework assignments, and instructions for facilitating

games with participants. During the sessions the coaches reviewed the lesson materials, practiced delivering content, and asked questions related to facilitating the NTL curriculum. Areas emphasized during the coach training sessions included delivery speed, volume, and repetition of lesson concepts.

2.2.2 Digital Literacy Class Series

A local independent living facility recruited older adults to participate in the study. The researchers informed the study participants that they would participate in a research study to develop a curriculum for technology training, targeted to older adults. The researchers notified the participants of their rights to withdraw from the research at any time. Participants indicated their agreement with their signature on an informed consent document approved by the Universities Institutional Review Board.

The classes took place in a face-to-face format at an independent living facility in Pennsylvania. One-hour lessons were taught weekly to two separate classes of independent living residents led by two coaches in each group. Sixteen (16) older adults completed the 8 lesson class series. In addition to the student coaches, a faculty supervisor, and one additional assistant were present at each lesson to assist with the facilitation. Class participants were given a tablet computer during the fourth class of the program. Participants could continue to use the tablet computers for the program's duration and beyond if they were living at the facility. All 16 of the NTL class participants continue to use the tablet computers since the pilot program completion in January 2020.

2.2.3 Coach Focus Group

This project examined feedback from the trainees to implement their suggestions to improve the train-the-trainer program. A focus group was conducted with the 4 NTL coaches after the program's conclusion to evaluate the TT approach and materials. The focus group process inquired about the TT program's challenges and successes and the coach's' experiences with the 8-week class series' facilitation. Researchers asked the coaches about the effectiveness of the training they received. They also inquired about challenges and accomplishments experienced while teaching the lessons, perceptions of the coach guide, and aspects of the program that they found valuable.

3. Results

3.1 Data Analysis

The focus group with the coaches was held virtually by video conference. Transcripts from the recording were accessed, edited, and formatted into a single document for evaluation. This qualitative data collected from the coach focus group was analyzed manually using deductive coding. The researchers based this coding on the training-the-trainer project's evaluative goals as part of the digital literacy curriculum pilot. The focus group's purpose was to get feedback from the coaches and use their suggestions to form an action plan to improve the NTL program's TTT aspect. The goal of evaluating the TTT program guided the coding process. The codes included problem, benefit, support, preparation, and effective. The themes identified from the data analysis included barriers for participants, gaps in the TT program, challenges experienced by the coaches, effective strategies, suggestions for change, and program value.

3.1.1 Barriers for Participants

When speaking about the delivery of the NTL classes, the coaches noted that there were significant barriers for the participants. The coaches commented on their class facilitation experiences and suggested that some barriers affected the course delivery. Aspects of the digital divide contributed to a lack of background knowledge and experience for participants, which affected the course delivery. The curriculum did not fully address the knowledge and experience gaps between the coaches and the older adults.

> *At first, their problems were things like they couldn't figure out how to turn it on and then towards the end their problems were much more sophisticated like okay when I am in this app. It was it was a big jump. (Jen)*
>
> *It was a surprise for me that mainly, most of them don't have a smartphone. So, they are not used to the touchscreen. So, they keep touching here and there. For some of them, their hands were shaking it wasn't easy to touch. (Amy)*
>
> *There were such differences in what they already knew how to do, and we had a couple who had never used a computer or anything before. And then we had ones who were already playing games and things like that. So, there was a big sort of leap between and it was sometimes it would be hard to teach to both without one feeling lost and one feeling too bored. (Jen)*
>
> *There was a barrier regarding the vocabulary and learning about the basic steps in operating the tablets, setting up Zoom, and using email. Some students had an email address but did not know how to access their email or they did not understand that they could access their same email on the tablet or their desktop computer. It was like they were learning a new language. (Julia)*

The respondents agreed that barriers for the class participants included (1) variation in background knowledge and skill, (2) needing 1:1 instruction, (3) forgetting the instructions, (4) difficulty with using the touch screen, and (5) a deficit in the vocabulary needed to engage with the lesson material.

3.1.2 Gaps in the TT Program

The coaches suggested that it was challenging for them to learn new technologies in a short amount of time. Having access to the tablets before the training and taking additional time to practice the software would have increased their confidence and effectiveness when teaching the lessons. Even though the coaches had previous experience using Zoom as a graduate student, they were unfamiliar with the software's features. They did not feel confident instructing others on its use.

> *We are an all Mac household so Learning a tablet and learning a tablet on a different platform that I've never used and trying to pretend like I know what I'm doing. (Jen)*
>
> *We needed to have more training before we start, I thought it would be much, much better. And to have it and to go through it and to try to use the Zoom because it was totally new for us. Like for me, even I, I had to download it on my iPhone. Try to use it. But I don't have anyone who's using zoom. So, It would be much, much better if we had the curriculum before and we went through the app and know how to fix this problem and how to go through it because we would get stuck when we were teaching. (Amy)*
>
> *The guide and the presentations were helpful, but it was difficult to determine which points to reinforce. We could have used more instruction on the main points to review each lesson. (Richard)*
>
> *Before every class I would highlight the parts I wanted to touch on and because it's sometimes it's hard to go back when you're in the moment and figure out, pull what it is from the paragraph. What are the important parts to touch on, so like a little cheat sheet of bullet points to hit during the class would be great. (Julia)*

The coaches reported gaps in the train-the-trainer program including (1) a need for extended tablet practice, (2) additional video conference training, and (3) guidance on the reinforcement of lesson main ideas.

3.1.3 Challenges for Coaches

When discussing the NTL program delivery, the coaches mentioned the challenge of balancing technical support with class facilitation. The coaches suggested that having technical support during the lessons would help them be more effective with lesson delivery.

> *It was difficult to address each question and to help each person keep up with the group instruction. It was hard to balance the need for 1:1 instruction while having 8 students and 2 trainers. (Julia)*
>
> *Some of the steps took more time to get everyone going. So, not all of them felt involved or they needed help or had questions and you can do this with eight people at the same time, it was was just too much for us. (Jen)*
>
> *One of the times we got behind in the whole session because there was a problem. I couldn't deal with it or get everyone up to speed. So, having a technician, at the same time, even with the two groups. Just available to help here or there if there were any problems with a tablet, it would be perfect. (Amy)*
>
> *More help with the technologies. Especially the days where we were trying to get them logged into the tablet, having one more person would have been a lot more help. (Richard)*

The coaches noted the biggest challenge was keeping the NTL student group on task and in sync during the hands-on practice sessions. The coaches reported that they had difficulty delivering the lesson content because they would become consumed by participant questions and individual support requests.

3.1.4 Effective Strategies

The researchers asked the coaches about the effectiveness of the teaching strategies and support built into the lessons.

> *Once they got the tablets, it was, it was really like you could see with some of them look like the whole process clicking and so having the tablets and actually having downtime on their own to play with them. It was, was a big part of it, I think. (Jen)*
>
> *I think like the idea of giving them papers with the steps. It was fantastic for them, even one of them at the end. When we were together. Me and Richard, like he wrote here. How to click like what the first step, second system like it was good for them all to go back and revise and see what to do here. What to do there. It was a wonderful idea if needed more. (Amy)*

> *It was effective when we went step by step with each skill. Every skill we just read the steps one each step by step by step so that they can follow even after the lessons since the instructions were in their student guides. (Richard)*
>
> *The diagrams and images were very effective along with the step by step instructions. The hands-on instruction and the games that we played seemed to engage the participants. (Julia)*

The coaches supported the use of step by step instructional aids. Future lessons will expand on this helpful practice. They reinforced the use of images and diagrams for both the coach and student guides and supported continued hands-on training for themselves and the class participants.

3.1.5 Suggestions for Change

The coaches' perspectives regarding changes to the curriculum and the training process are essential when developing a training program. The researchers asked the coaches to comment on the training sessions, the training guide they were provided, and the materials developed for the older adult students.

> *I think it is important that next time, for every skill, we just read the steps one by one, each step by step by step so that they can follow even after (Richard)*
>
> *More diagrams with less information on each diagram. Some participants mentioned that there were too many arrows on the diagrams and that we should have more diagrams, like the step by step instructions. (Julia)*
>
> *So maybe for next time to make two groups like the people who have more skill in one group and those who need more help in another group. So, the teacher or the coach will be able to distinguish and be able to know how to go through the lesson slower slowly or a little bit faster. (Amy)*
>
> *It would have been helpful to have the tablets to use before the training and lessons. I'm very much tactile that way and it would have been helpful. Even if we just had them for like a week to play around with it. I felt like I had to pretend that I knew what I was doing. And sometimes that confidence does not train. I feel like if we continue with Zoom that not only do the coaches need to have time and training on the tablets, but they really need to have training on Zoom because we like, I know myself, I can't speak for anybody else, but I only use zoom for class. (Jen)*

The coaches suggested that (1) there should be an increase in diagrams, lists of instructions, hands-on training, and visual aids. (2) The difference in skill level among the participants was of concern for the trainers, and they discussed the option of dividing the students into ability groups. It may be challenging to establish equally balanced groups across the skill levels. (3) The trainers agreed that the students should be given the tablet computers at the beginning of the class series instead of lesson four. The coaches decided that the participants needed more time to have the tablets to get comfortable with how they operate and to have time to experiment with them on their own.

3.1.6 Program Value

During the focus group session, the researchers inquired about the Train-the-Trainer model's value and their participation in the NeverTechLate program.

> *It was so nice to feel that we helped them and even just a small bit. It was so good for me. (Amy)*
>
> *I always tried to be trying to make sure I could amplify my voice. I think that was a good thing to learn and what is also important, I love the way you connect with them. Basically, you start with your experience, then you're connected to what we are learning. They are going to learn. I also learned that a lot, especially from you. I like the way that you talk, you, you show them your experience, then you start from there and showing them that you are also learning with them. Showing that it is possible. You need to practice in order to learn. So, it was very, very important to me. (Richard)*
>
> *And our group was so nice, they were even when they were frustrated. They were wonderful. And they came up to us to tell us, like we know we're frustrated but you guys are doing a great job and we are learning. And it was it was really welcoming and even when we were frustrated. We were all frustrated together. (Jen)*
>
> *I enjoyed the personal connections. That's one of the reasons why I love teaching, you start to learn about your students, and you become more attached to them and like them. And, you know, want to know how they're doing, and they want to know how you're doing. It's building community. So, I think for that, you know, not only in reducing isolation for the older adults but them probably having a*

> *regular class to go to and having you come every week. It was probably part of that and then getting together with other residents also probably helped create more community. And that's one of the things about education. That's so nice is that you can build a supportive community with the right conditions. (Julia)*
>
> *The fact that by the end of our class almost all of them were able to at least make a video call successfully and chat with each other. I think that was great. (Richard)*

The study participants agreed that they had a positive experience with the TT and NTL classes. They reported that the achievements and engagements from the students reinforced their efforts. There was an emphasis on the value of building a community to facilitate learning and working together to achieve goals. The coaches noted that they enjoyed the TT program because they experienced mentorship and modeling from experienced trainers.

4. Discussion

The purpose of this study was to gather feedback from the trainees to implement changes to the TT program. As part of the NTL curriculum pilot study, it is important for the TT program to adequately prepare trainees to effectively deliver the curriculum. The training for the NTL coaches will be revised based on the results from the focus group. From the NTL coaches' perspective, the TT process appeared to be a useful model for delivering the NeverTechLate Curriculum. In coordination with the curriculum development, the TT approach's evaluation provided insight into future directions for the NTL curriculum and training. The weekly training sessions combined with guided instruction appeared to help the coaches develop their facilitation skills and improve their confidence. The TT program should include additional supports for the program coaches, including a tablet device for practice, early access to the video conference program for enhanced training, and an improved coach guide with more bulleted facilitation guidance.

One major lesson learned from this pilot study was that we underestimated the digital divide's impact on shared vocabulary, communication, and comprehension. When developing a curriculum about technology for older adults, it is essential to consider the gaps in understanding between digital natives and those new to technology. The NTL coaches' feedback and observations suggest that more emphasis should be on step-by-step instruction paired with repetition and hands-on practice. Additional focus should be on training the coaches about strategies for establishing a common language to discuss technology, navigating the need for 1:1 instruction, and tips for building comprehension. The digital divide gaps are not limited to content knowledge. They also include deficits in psychomotor skills. Consistent use often results in motor skills related to digital devices, including swiping, touching, and tapping with your fingers. Older adults may need more time to practice using a touch screen and could benefit from additional aids such as a stylus and stand to help with mobility issues.

If we can encourage older adults to teach each other, they could receive more peer-based social support, increasing digital literacy diffusion. The impact of the additional social isolation created by COVID-19 has increased the need for programs designed to empower older adults in using technology as part of their daily lives. The results from this pilot project will guide the development of a TT model to facilitate this curriculum for distance delivery.

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