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Strategies to Help Elderly Learning Technology in Malaysia: A Focus Group Study

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Abstract

Technology is advancing rapidly worldwide and is considered a necessity to be adapted into our daily lives, due to it being very useful and helpful to people. A fact that is known to many is that technology, especially the ones that are catered for the elders can bring many advantages to the said group of people, thus making some of their daily activities more convenient. However, much past research has identified the elders as people who adopt technology at a relatively slower rate than other people in different age groups due to circumstances of aging, such as the decline in cognitive and physical abilities, lack of exposure to technology, and even has low self-efficacy and self-confidence to use said devices. This study conducted a focus group discussion with a total of six participants who were experts in gerontology and the information technology fields, with the aim of strategizing methods that could enable the elderly to learn technology in a more convenient way. The discussion resulted in the obtainment of five strategies that could be used to help elderly people in Malaysia to learn better, thus improving their acceptance of technological devices in their lives, thus achieving active aging

Keywords: Elderly Learners, Learning Strategy, Active Aging, Technology Acceptance, Focus Group

Background

As reported by the Department of Statistics Malaysia (DoSM), 10.7% of the population of people in Malaysia is made up of those aged 60 and above (Ayamany, 2021), and by the year 2030, the percentage of elderly will increase to 15% (Wah, 2021). Concurrently heightening is the advancement of technology, as, in the past 20 years, many new forms of technology have been introduced and included in people's daily life activities (Kasim & Rozaini, 2021). Smartphones are considered a common form of technology. A study conducted to obtain statistics regarding smartphone ownership in Malaysia determined that

in 2021, 30% of the population that owns a smartphone were aged 65 years and above (Statista, 2021).

Previous research has proven that technology, especially the ones that are catered for the elders can bring many advantages such as enabling them to connect to their social surroundings, participate in task-oriented duties such as doing online shopping and paying bills, besides improving their self-understanding (Selwyn, 2004; An et al., 2021). According to Chipps and Jarvis (2017), the usage of digital mobile phones among the elders has increased as they want to stay connected with others. Usage of technology has also enabled the elders to live more independently in their accommodation (Zorgaunoriteit, 2018; Askari et al., 2020).

Although there have been many products related to technology created to cater to the many conditions of the elders, the age-related digital divide is still evident and can be seen almost everywhere (Andreasson, 2015; Jarvis et al., 2019). This could be due to the fact that the elders are not fully ready to accept and adopt technologies into their daily lives (Jarvis et al., 2019), as they have a significantly lower acceptance rate of technology (Officer et al., 2016). Their reluctance attitude could be because of what they have been through and their experiences throughout aging, besides the shifts that happen throughout the aging process (WEF, 2015; WHO; 2018).

A study by An et al (2021) mentioned that they identified elders as people who adopt technology at a relatively slower rate than other people in different age groups. They tend to only use a product that they already have a basic understanding of, besides using products that they are familiar and comfortable with. Since mobile applications have been proven to be able to improve a person's self-care, self-management, self-efficacy, besides improving their behaviour and awareness of their health and medications requirements (Changizi & Kaveh, 2017; Askari et al., 2020), it is thus important to encourage the elders to engage more with technology and health-related applications and devices, for their benefits.

As we move forward into the 21st century of living, studies regarding technology for the elders (gerontechnology) are now acknowledged as an important field of study (An et al., 2021), as evidenced by previous studies that have been conducted to include and encourage the elders' participation in the usage of said devices. Measures have also been taken by the World Health Organization (WHO) and the United Nations (UN) by publishing policy papers on health programs specified for the elders (Al-Shorbaji, 2013; Kasim & Rozaini, 2021). This focus group study thus aims to discover strategies that could help the elderly to learn technology, thus increasing the acceptance rate of technology among the elders.

Methods

This study was carried out using a focus group discussion method. A focus group can be understood as an in-depth interview that is conducted in a group setting, where the participants of the group will be selected according to the organizer's inclusion criteria list, according to the objective they wish to achieve (Mishra, 2016). A focus group discussion, according to Mishra is a method to gather people from similar backgrounds and experiences to share their opinions and views on the discussed topics.

Focus groups have been conducted by past researchers and studies for many reasons, some including to seek clarity, and extend or strengthen data that has been collected through other methods, such as reviewing the existing works of literature. Focus groups could also help researchers to walk through their participants' experiences, thus building rapport with their existing knowledge regarding the topic of interest.

Participants

This focus group discussion was conducted to obtain input and suggestions from the experts regarding the strategies that could be exercised and used to aid the learning of technology among the elderly. The participants for this focus group discussion were recruited through snowball sampling, where one expert who was also an acquaintance with one of the research team members was initially contacted first to request their willingness to participate as one of the focus group's participants. After obtaining their agreement, the said participant was asked to contact other experts that whom they are acquainted.

After obtaining several plausible candidates recommended by the initial participant, the final number of experts joining the focus group discussion was determined following a list of inclusion criteria that has been predetermined by members of the research team members. The first criteria of inclusion were that the participant must have at least five years of experience in either the instructional strategy and design field or information technology fields. Another criterion of selection was that the participants must have experience working with and conducting research that involves elderly people. This is to ensure that the information shared is based on real situations and not based on assumptions.

The result of saturation of participants resulted in the obtainment of six experts, of which three are from the gerontology field, and the remaining three experts are from the information technology field. The reason for having more than one expert for each field is that it enables the expert or participants of this focus group discussion to share elaborated ideas from their respectful perspectives, besides developing in-depth discussions for the topic of discussion by sharing ideas and adding on more input and information from other expert's ideas (Kohn & Christiaens, 2018).

Procedures

This study was conducted by carrying out a focus group discussion, where the main purpose is to have a discussion focusing on ways or strategies that could be used to help the elderly learn technology. By conducting this focus group discussion, the experts could provide their insights, whether personal or based on their experiences, thus enabling other participants to obtain a deeper understanding, besides also enabling them to think in a more diverse way regarding the particular topic of interest (Nagle & Williams, 2013).

The focus group discussion was conducted on a Monday dated 20 September 2021, and was conducted from 2:30 p.m and was wrapped up at 3:30 p.m, which was an hour-long session through an online meeting platform known as Google Meet. The participants were emailed a week before notifying them about the time of the meeting and the link to the Google Meet meeting. The participants were also reminded again regarding the discussion a few days before the event.

The focus group discussion was led by a moderator, who is also the head of the research team. One of the research team members was also present to act as the note-taker during the session. The moderator officiated the focus group discussion by greeting the participants and informing participants that the particular Google Meet session will be recorded for the sole purpose of data collection and data analysis. After obtaining the consent and agreement from all the participants, the focus group discussion then began.

The participants were asked to briefly introduce themselves to one another, as this could help build a rapport between the participants. The moderator then asked other semi-structured questions related to instructional strategies and designing and also regarding information technology, followed by prompts that could help the obtainment of data and

clarify the data provided by the participants. The semi-structured questions were constructed by the research team members based on a discussion that was guided by the research objectives constructed.

Upon completing the focus group discussion, every one of the participants received an emolument as an appreciation token for joining the focus group session and their willingness to share valuable information and input for the current study.

Data Analysis

The objective of carrying out the content analysis method is to convert lengthy data that was transcribed from the focus group recording into organised and concise summarization of the main points of the results (Erlingsson & Brysiewicz, 2017). The verbatim transcript data that was obtained from the focus group session was analysed through a conventional content analysis, paired with an inductive approach. An advantage known of this particular method is that the information is obtained directly from the study participants (Hsieh & Shannon, 2005).

The first step of analysing the data was to read the transcribed data as many times as needed to gain a general understanding of what was discussed during the focus group discussion (Erlingsson & Bryiewicz, 2017) and to also relate the data received and the objectives of the focus group study to create themes. Some of the themes may already have been initiated during the execution of the focus group discussion, but new themes could emerge as the data is being analysed thoroughly (Rev, 2021).

Results

During the analysis of data, the themes generated were obtained both deductively, where it is based on existing knowledge of the researcher, and also inductively, where the themes emerged as the transcribed data were analysed. This then resulted in the identification of five themes, which are the strategies that could help the elderly learn technology.

Encourage Participation and Motivation

The first theme or strategy that was obtained based on the focus group discussion is to emphasize the act of acknowledging and encouraging the behaviours emitted by the elders. According to the experts, the elderly lacks self-confidence in themselves to learn something new, and this includes technology. This is supported by findings from previous research that elders are resistant to adopting technology in their lives, besides feeling anxious about using technologies (Askari et al., 2020; Agarwal & Prasad, 1999; Tams et al., 2014).

Many past studies that were conducted to identify factors that could affect the elderly's' acceptance of technology found that some of the factors include experiences of using a technological device, self-efficacy and self-confidence, willingness, and social bonds are what effects the acceptance and motivation of learning technology among the elderly (Hasan & Linger, 2016; Hur, 2016; Reis et al., 2016; Jo & Hwang, 2021). Besides the aforementioned, motivation is also an important aspect of the learning process of the elderly (Mulenga & Liang, 2008; Pintrich & Schunk; Lin, 2011).

P1: "we need to get rid of their (elderly learners) fear... one thing I consider crucial is to convince them that they don't have to feel afraid because the fear will control how they conduct their mind and thoughts of certain things we want to do."

P2: *"I think we need to work on their motivation, only then can we embark on technology literacy. Enhancing self-confidence is actually very important."*

P4: *"in my opinion, the perception that technology is difficult needs to be corrected among elderly people because they already have this perception that technology is something difficult to learn. They have this idea that once they make a mistake, something serious would happen."*

As cited by Tyler et al (2020) in their study, Chang and Lin (2011) mentioned that when the activities in learning cater to the learning preferences among elderly learners, it could add to the level of motivation of the elders, thus encouraging them to participate more in the learning session. One of the strategies mentioned by the panels to help the elderly learn technology better is to motivate them and help the elderly learners to realize the significance of learning to use and adopt technological devices in their lives.

Consider Cognitive and Physical Abilities

It has been proven by many prior studies that often as the age of a person further increases, they are likely associated to face a decrease in their cognitive abilities (Lindenberger & Baltes, 1994; Salthouse, 1992; Smith et al., 2019). Another study by Nelson and Dannefer (1992) stated that heterogeneity tends to increase alongside the age of a person (Chen & Chan, 2014). It is also relatively known that with aging, a person's cognitive, physiological and psychological abilities also change and shift, which will inevitably affect the needs of the elders (Farage et al., 2012; Tenneti et al., 2012; Chan & Chen, 2014).

P2: *"we might need to consider their cognition ability, whereby sometimes these people have problems cognitively. It's not that they (elderly) refuse to learn, it's just that they happen to face barriers in terms of cognition and not only physical disabilities."*

P5: *"we need to look into their issues, such as Parkinson's, Alzheimer's, and other related limitations."*

Studies have reported that technological devices have been found to improve thinking skills among the elders (Calvo et al., 2017), maintain health conditions and slow cognitive decline, besides being able to amplify the psychological well-being state of elderly people (Gilhooly et al., 2010; Tyler et al., 2020). It is thus important to consider the cognitive and physical abilities of the elders so that the lessons could be curated to cater to their current needs and capabilities accordingly.

Informal Learning Setting

Learning preferences can be understood as the emotional characteristics, values, and intentions of an individual that they use to decide on their learning preferences (Khamesh et al., 2018; Molinari et al., 2005). It is basically how someone prefers to learn and gain knowledge better, in their own way. According to Molinari et al (2005) in their study, the selection and identification of an individual's learning preferences take into account their cognitive, emotional and intentional characteristics.

One of the noticeable learning preferences that are preferred by the elders is informal learning, which is defined by Golding (2011) as learning that is done through the activities or events that happen in the daily lives of a person (Jin & Baumgartner, 2019). The elders, according to previous studies are reported as a group of learners that enjoys collaborative

learning method, whether with their significant others, other family members such as their siblings, children, and even grandchildren, and also learning together with their peers and friends (Pang et al., 2021).

P5: *“the elderly have been found to have higher motivation when they are with their grandchildren. The support from the family is very important, especially if there are youngsters. They would enjoy it more if they are with children because, with family support, it would be easier for them to accept technology.”*

P4: *“with the presence of the kids, their motivation becomes different, and they become more active in learning.”*

P2: *“based on my observation, they (the elders) prefer Facebook. They prefer interaction and engaging with others, like making connections, some even go for games, or playing games with their grandchildren. Some may just prefer viewing YouTube.”*

As mentioned by the experts, learning with their children and grandchildren boosts their spirit to continue to learn, and is a preferable way of learning for many elderly. This is because they get to observe how the people around them use the technological devices, thus improving their self-efficacy and also their perceived ease of use of the particular device (Ishihara et al., 2013; Li et al., 2017; Pang et al., 2021). According to prior studies, continuous support from the people surrounding the elders, be it their family members, their friends, even their caretakers could be a strong factor in encouraging the elders to continue learning and making full use of the technological devices without giving up (Kim et al., 2016; Li et al., 2019; McGaughey et al., 2013).

Incorporate Audio-Visual Aids

In research by Pappas et al (2019), the utilization of videos that serves as an explanation outlet, among with graphics in modules, handbooks, or even manuals is essential for elderly learning, as it is also one of the preferred learning material by the elderly learners. Other researchers also highlighted that using explanatory videos in the learning process of elders enhances the effectiveness of the lesson, as it could help sustain the elders' attention and helps maintain their focus on learning digital technologies (Hansen et al., 2019; Smith et al., 2019; Ahmad et al., 2022).

P1: *“in order for us to create a program with the intent of giving exposure of technology for the elders, the instructions that will be given should not be complicated. It should be simple and easy to follow. It would be better if they (the instructions) were presented in the form of pictures or even pictographs.”*

“one aspect to consider is visual learning. Visual is important because they need to see, otherwise, they sometimes would not be able to visualize and get a clear picture of something. Incorporating simple, non-complicated infographics should be fine for them to be able to follow sequence and orders.

P3: *“we need to understand that when age increases, there will be a problem where shifts happen from listening and learning to seeing and learning. Hence, visualization is something that we need to re-evaluate.”*

Making use of and providing pictorials during elderly learning sessions was also acknowledged and recommended for the elderly learning session, according to (Dauenhauer et al., 2018).

Step-by-step learning

When teaching the elders, structured learning or step-by-step learning is one of the preferred methods of instruction, as it provides educational content to the learners, thus easing the learning process for the learners (Pappas et al., 2019). Research conducted by Haan et al (2021) found that the elderly leaned more and preferred learning through the step-by-step process and that the elders too considered the particular learning process as a crucial method for their learning session. The step-by-step learning process has also been identified by previous researchers as an instructional strategy that can help the elders to learn faster and more effectively (Hickman et al., 2007; Haan et al., 2021).

P6: "through my observation, elderly people are actually very structured, and we should never change their structure."

"they are okay with the step-by-step learning method, however, we must not disturb or distract them halfway as it might disturb their learning."

Discussion and Conclusion

As the percentage of the world's population is currently and is still continuing to rise at an impeccable rate, the requirement of the elders to stay healthy in every aspect including physical, mental, and cognitive, besides remaining active in learning and social aspects show how important it is to engage in the current digitally-evolved world (Purdie & Boulton-Lewis, 2003; Zhao et al., 2021).

In this study, an in-depth discussion of some strategies that could be implemented to help elders learn technology better was carried out in a focus group setting, where experts from the gerontology and information technology fields acted as the participants of the focus study, providing their insights and relevant information based on their knowledge and experiences to be used in this particular study.

The analysed transcription of the focus group session resulted in the obtainment of five themes, which were also the strategies that could help elders in Malaysia particularly, to learn better thus accepting technology in their lives. As suggested and discussed by the participants, encouraging participation and motivation, considering the elders' cognitive and physical abilities, learning in an informal learning setting, incorporating audio-visual aids in the learning process, and implementing of step-by-step learning method are the five themes obtained from the focus group discussion.

The advancement of technology is happening at a rapid speed, without showing any signs of slowing down anytime soon. Learning to use, adopt and adapt technology to our daily lives use is crucial, even for the elders. As Malaysia is one of the countries whose elderly population constantly increasing, encouraging them to learn to use technology is a must as to not let the digital divide widen between the elders and the evolving technology. Identifying the strategies that could help the elderly, especially in Malaysia to learn technology better is thus important to establish sustainable and active aging for the elders to continue to live.

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