TRAINING OLDER ADULTS TO USE TABLET COMPUTERS: DOES IT ENHANCE COGNITIVE FUNCTION?

*by **Chan, MY., Haber, S., Drew, LM. and Park, DC.,** from **The Gerontologist.** (2016) (Accessed 1 August 2016)*

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Evidence has shown that people who take part in mentally stimulating activities such as chess and reading show less age-related cognitive decline and a lowered risk of Alzheimer's disease. As the number of older adults increase in society, there is growing importance from an economic and social perspective to understand how to maintain seniors' cognitive health to promote independence and quality of life.

This study investigated if older adults could improve cognition when engaged in mentally challenging training – learning how to use a tablet computer (i.e., iPad) and related software applications over a period of time. It aimed to distinguish the difference between "productive engagement" and "receptive engagement" and its impact on cognitive function.

- **Productive engagement** comprises activities which require substantial cognitive challenge and mental processing, resulting in continual activation of working memory, episodic memory, and reasoning (e.g., learning a new computer software).
- **Receptive engagement** comprises activities which rely on existing knowledge and that are familiar, and with low knowledge acquisition demands (e.g., knowledge-based word puzzles).

Study Overview

54 participants aged 60-90 years old were divided into three groups:

Intervention Group (18 participants) – Productive Engagement

- Took part in a 10-week cognitively challenging programme where new iPad users were taught how to use the device and related software applications via structured lessons and assignments.
- They spent at least 15 hours weekly on the activity (comprising two 2.5 hours group training sessions, with the remaining 10 hours on assignments).
- Activities included learning the basic functions and how to navigate the iPad and its software applications, and gaining new knowledge by embarking on thematic assignments such as social networking using the software, *Twitter*, etc.
- Their experiences were recorded using a journal software application.

Control Groups (2 groups of 18 participants each) – Receptive Engagement

Placebo Group:

- Took part in a 12-week programme with activities that required little learning and cognitive effort and which relied on world knowledge.
- They spent 15 hours weekly on the activity (comprising one 5-hour core curriculum session, with the remaining 10 hours on "brain library" activities such as viewing a variety of DVDs, CDs, and magazines).
- Activities were performed at home with minimal social interaction.
- Their experiences were recorded via a diary and questionnaires.

Social Group:

- Took part in a 12-week programme with active social group interactions and no active learning component.
- They spent 15 hours weekly on the activity (comprising a 5-hour core curriculum session – similar to the Placebo group) with the remaining 10 hours on social activities of their choice that were heavily reliant on their personal knowledge such as recipe exchanges and watching comedies together.

Findings

- Results showed that participants from the iPad intervention group had enhanced performance in processing speed and episodic memory compared with the Placebo and Social groups.
- It reiterates earlier findings which suggest that participating in productive engagement activities can better support cognition as opposed to receptive engagement activities.

Programmes similar to the iPad intervention can be implemented in a community setting, with volunteers aiding scalability. Using a broad lifestyle engagement approach, it enabled participants to improve cognition and learn software applications which enhanced their everyday function and were personally relevant.

[1]*Episodic memory refers to the details of what, where and when an event has taken place. (Source: University of California San Francisco Memory and Aging Center).*

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