

Playful Digitally-mediated Wellbeing and Learning for Active Ageing

The past few years have seen an increasing interest in the use of technology for the individual and collective wellbeing and quality of life. In fact, the field of Human-Computer Interaction (HCI) has evolved from usability and experience design to a more humanistic approach that implies designing for good and a positive sense of wellbeing and relationship with tech. Beyond these changes, active ageing and lifelong learning have been brought to the fore by the Political Declaration and Madrid Plan of Action on Ageing and the World's Health Organisation. However, there is a general lack of understanding on the use of games to encourage healthier habits, a sense of security and participation in society.

This paper reports on a mixed-method study that aims to assess the effectiveness of game-based learning to encourage active ageing. A group of 33 adult learners at a University of Third Age were involved in the codesign process of two digitally-mediated learning programmes (game - GBLP and computer-assisted learning - CALP) and included surveys, group discussions and participant observation. After developing the prototypes based on the codesign sessions, 60 adult learners at four Universities of Third Age were assigned to three groups: Experimental Group (G1) tested firstly the GBLP and then the CALP; Comparison Group (G2) tested firstly the CALP and then the GBLP; and Control Group that did not take part in the intervention. Perceived health-related wellbeing and quality of life were assessed before and after each experiment, using the SF36v2 and WHOQOL-BREF scales. Ten Subject Matter Experts from the Industry and the Educational Sector in the fields of Games, HCI and Psychology and/or Ageing studies were also interviewed in order to gather their perspective on game-based learning, behaviour change and active ageing.

Two prototypes of the learning programmes – GBLP and CALP are presented and a set of design recommendations for games and active ageing are outlined. The results have revealed that game-based learning design can have a role in perceived mental health and general health-related wellbeing in comparison with other non-game learning programmes, suggesting that the environment, mental and psychological wellbeing should be considered. In terms of the design factors, metamemory, immediate feedback, context-aware challenges, storytelling/bios and role-playing, imagery-based techniques and social engagement can foster participants' confidence to solve daily-life problems, decrease ageing bias and encourage participation in society.

Keywords: Digital wellbeing; Game-based learning; Co-Design, Active Ageing

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