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Computers & Education 85 (2015) 160–169

Contents lists available at ScienceDirect

Computers & Education

journal homepage: www.elsevier.com/locate/compedu

Putting yourself in someone else's shoes: The impact of a location-based, collaborative role-playing game on behaviour

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ARTICLE INFO

Article history:
Received 5 September 2014
Accepted 12 February 2015
Available online 5 March 2015

Keywords:
Mobile games
Mobile learning
Serious games for health
Health behaviour change

ABSTRACT

The goal of this study was to probe the effectiveness of a mobile game-based learning approach in modifying behavioural outcomes and competence. The experiment was set against the background of low rates of laymen providing CPR during sudden cardiac arrests. A post-test control group design was used to contrast and evaluate the effects of the two different types of learning. Two hundred two students were randomly assigned to two conditions, a game-based variant simulating an emergency situation (experimental group), and an instruction-based approach (control group). After the intervention participants completed a questionnaire assessing self-prediction, self-efficacy, attitude, subjective norm, empathy and competence. The largest arguably significant difference between the two groups showed in self-prediction and capacity beliefs. Results further revealed a positive relationship between self-prediction and the variables attitude and self-efficacy. The type of scenario did not translate into the other concepts we assessed, though, and results were inconclusive regarding the effectiveness of the type of learning scenario and CPR knowledge. We explain the small effect size partly by the experimental procedure and the design of the game intervention, which is discussed in the course of this article.

1. Introduction

In Europe, approximately 350,000 people die each year due to out-of-hospital cardiac arrest (OOH-CA). On a daily basis, this is around the equivalent of two full jumbo jets, which puts this cause of death in third place behind all cancers combined and other cardiovascular causes (ESA, 2014). Around 100,000 of these deaths could be prevented if members of the public, beginning with schoolchildren, had the resuscitation knowledge needed to save a life. Despite an extensive introduction of cardiopulmonary resuscitation (CPR) training measures in the 1960s, the rate of laymen providing CPR during cardiac arrests is still low (Plant & Taylor, 2013; Vaillancourt, Wells, & Stiell, 2008). It seems that knowledge on how to provide CPR is not the only decisive factor. Studies investigating the impact of psychosocial factors on laymen providing CPR identified factors such as perceived risk of infection with a communicable disease during CPR, or disagreeable physical characteristics, e.g. the presence of blood, which influenced and even prevented lay helpers' willingness to provide CPR (Cho, Sohn, Kang, Lee, Lim, Kim et al. 2010; Coons & Guy, 2009; Johnston, Clark, Dingle, & FitzGerald, 2003; Kanstad, Nilsen, & Fredriksen, 2011; Query, 2006).

Coons and Guy (2009) concluded, "the relative importance of the reasons for not performing CPR is informative" [p. 334]. They emphasized that there is potential to change CPR-related attitudes and beliefs and proposed different forms of educational intervention to achieve this. Axelsson Herlitz, & Fridlund (2000) also argued that CPR trainings should include appropriate models to produce the feelings of personal responsibility and courage required to intervene and to prepare lay helpers emotionally for dealing with unexpected and unwanted situations.

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http://dx.doi.org/10.1016/j.compedu.2015.02.012
0360-1315/