

Chapter 20

User Experience Design of History Game: An Analysis Review and Evaluation Study for Malaysia Context

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ABSTRACT

User experience (UX) and user interface design of an educational game are important in enhancing and sustaining the utilisation of Game Based Learning (GBL) in learning history. Thus, this article provides a detailed literature review on history learning problems, as well as previous studies on user experience in game design. Future studies on educational history games will benefit from this systematic review and analysis of current educational history games, as this article examines in detail which game features are the most effective in promoting engagement and supporting the process of learning Malaysian history. The results have revealed that mobile game applications with historical content can indeed be a meaningful way to create gaming experience, learning experience, adaptivity and usability, which can facilitate history learning through UX of playing history mobile games. The correlation results of these four dimensions have indicated four positive and significant relationships.

INTRODUCTION

South East Asia's video games market represents approximately 4% of global consumption. However, the region's global growth rate of video games is the fastest compared to any other regions in the world (MDEC, 2015). This tremendous enlargement of the game market in South East Asia truly offers immense opportunities for the industry to exploit, including the education field. Generation-Y is known

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as the generation born between year 1980 and 2000. This generation is born into technology and often knows more about the digital world than their teachers and parents (Meier & Crocker, 2010). Today, they spend most of their time playing digital games which is enabled by the rapid growth in internet access and ownership of Information Communication and Technology (ICT) devices. Audio and video, film and television, games, Virtual Reality (VR) and Augmented Reality (AR) are the new ways of educating students nowadays. A clear understanding of the capabilities and shortcomings of video games in the education field helps in the design or development of potential games to meet the demands of its users.

For the past 40 years, many significant studies have proven that computer games have become a favourable past time activity and lately, serious gaming has been found to impact people's attitude, behaviour, skill acquisition and learning, thus attracting the interest of developers and researchers (Boyle et al., 2016; Khenissi et al., 2016; Raybourn, 2014; Vanisri & Roslina, 2015). Serious games can include role-playing experiences, social processes, immersive simulations for the exploration of interpersonal development, diplomacy, adaptive thinking, combat tactics, emergency response, governance, health, education, management, logistics, and leadership (Raybourn, 2014). Its ease-to-use, improved collaboration, innovation and production, the transformation from conventional educational methods to modern educational methods, contemporary software programmes, distance learning, the virtual learning environment and the increase of computer-based games for learning are the few factors that have led to the interest of utilising computer games, video games or serious games for learning (Khenissi et al., 2016).

Learning history has always been perceived as boring and static, and has traditionally emphasised on the memorisation of historical facts and chronological sequences of events (Angeli & Tsaggari, 2016). Furthermore, teaching history only focuses on information delivery without connections to our real life; thus, causing history to be unfairly promoted as a "death" subject. Nevertheless, history is vital as a learning subject for youngsters in order for them to understand national, political, social, religious and economic problems. Currently, the subject of history is listed as a compulsory pass subject in the Malaysian secondary level examinations. Since the immersive technologies such as the virtual world and augmented reality have been used in cultural heritage learning for the public, this is a great opportunity to motivate users to learn or gain knowledge in this way rather than receiving information passively. These technologies may enable students to visualise historical events and attract them to learn while playing the VR or AR games. The rewards system such as the unlocking of content and the gaining of experience points can increase their motivation to learn. This method has been practiced in museums, exhibitions, books and visual content (Mortara et al., 2014).

Thus, for this reason, game-based learning (GBL) or games with educational purposes, namely serious games are now very popular. The fun, amusing, compelling, and immersive experience, coupled with high engagement and flow are all crucial aspects that need to be studied and focused on either in current or future GBL studies. GBL or serious games have to be well-designed to increase learner engagement, an integral component of educational effectiveness (Kiili, de Freitas, Arnab & Lainema, 2012). According to them, the flow framework provides the principles for a good educational game design, which is based on associative, cognitive and situative learning theories and consists of engagement and pedagogic elements with the focus on feedback and flow principles. Therefore, the ultimate aim of game design is to create appealing experiences to users. User experience and user interface design of an educational game is important to enhance and sustain the utilisation of GBL in learning history. However, empirical studies on user experience in history games are scarce. History games are not widely available in the market. Most games may be related to history but are not for educational purposes. Furthermore, most of these games are developed for entertainment, fun and enjoyment purposes.

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