

Chapter 15

Gamification to Promote the Engagement in Healthcare and Wellness of Patients Under Therapeutic Care: Gamification and Healthcare

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ABSTRACT

The evolution of gaming in healthcare promotion evolved concurrently with the ascendance of computing technology, smart phones, facilitated by video-based 3D technology and virtual reality in the mid-eighties and nineties. Health and wellness in the twenty-first century is interlinked with the wealth of the nation and individuals and its traditional definition of physical, psychological, spiritual, social, and financial optima has seen new paradigms. The gaming technology has found groundbreaking applications in many diagnostic and therapeutic modalities

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to modulate the behavioral changes, simulation of virtual reality, and passage to recovery through neurologically engaging the cognitive functions with the stimuli produced. Physiological symptoms and life-threatening disorders which may be caused by viral afflictions (HIV, Hepatitis C, etc.) and type 2 diabetes could today be significantly managed by gaming technologies for psychosomatic management.

INTRODUCTION

Advent of smartphones have seen the spurt in gaming technology and its utilization by all age groups, genders and classes. It has found more appealing to children and adolescent but youths and elderly too have a liking to it. It is played for entertainment, simulations of adventure, Brooks et al. (2016) and for recreation, Li and Foo (2014). It has been reported by many researchers that over 40% of the United States population is engrossed in computer games for 3 or more hours per week in 2015, Fleming et al. (2014). The games have various designs and have variety of end processes with multiplicity of dimensions, goals, interaction and involved technologies. The variations in gaming have evolved from some very simple key board games inbuilt in computer to sophisticated software based with artificial intelligence. Over the years new spectrums have been added in gaming arena which are designed for variety of applications such as to enhance concentration, (Formagini, 2017), improve memory, enhance information, Fleming et al. (2014) and provide orientations for learning the deeper aspect of the subject, Eagger (1992). Some games are designed to influence the cognitive ability and inculcate innovative methods for problem solving, enhance analytical abilities and modulate behavioral change, Connolly (2012). The past few decades have seen rapid strides in development of gamification industry which has embarked on developing serious games capable of medical interventions. It is generally believed that gaming portals have something new to share about health and educational issues. The gaming interventions have ramifications in societal areas to improve the outcome of a course of medical interventions, Andrews (2011). The reach of *interventional games* have been converted in *gamification* which have been incubated from simple computer key board based games to operate on smartphones with ability to provide counseling and coaching in physiotherapy. However, the various types of games which have reached to market have attempts to influence the thought process in a delicate manner. These are mostly harping on gamification with simulated inputs to make the individual user orient the thought process in a particular direction. Serious games which have potential applications in health care are tuned to utilize gaming as a central and primary medium by providing virtual reality and stimuli of desired quantity and quality, Andrews (2011). In contrast, gamification refers to the addition of game elements to modification of desired thought patterns

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