

Chapter 55

A Taxonomy and a Proposal for a Classification of Serious Games

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ABSTRACT

The usage of Serious Game with educational aim has been studied for several years; however, this is still an experimental field. The concept of Serious Game has different spheres being used with different aims, and, in accordance with the disciplinary area it belongs, it refers to many other meanings and concepts, so it is necessary to discuss on the general concept, analyzing its characteristics to have a clearer vision of the theme. To understand better and categorize Serious Games, the authors considered that the concept of game could be a basilar element of definition to give a systematic order to the numerous typologies of Serious Game. The chapter starts from Joan Huizinga's research and Roger Caillois' studies in games and human approach and effects of games. The authors define what a simulation is and combine it with the concept of simulation to formulate a taxonomy to someday become an acknowledged instrument of research on Serious Games and the contexts and fields of application.

INTRODUCTION

The relationship between game and learning is more closed than normally we imagine. There are many researches that supports the connection between game and learning: Jean Piaget (1951), Jerome Bruner (1996), John Dewey (1938), Lev Semyonovich Vygotsky (1978), for instance, have demonstrated how we can learn first of all thanks to the experience and how the game is a particular form of experience.

The development of those theories in recent days has allowed the birth of learning by doing paradigm, in which simulations are an important support to make experience. With simulations we have the possibility to create and repeat any kind of experiences, such as dangerous events, situations and contexts even the unpredictable ones. So with simulations we can widen the potentiality of experience in learning field.

But how many kind of simulation has been realized? Which kind of simulations have been made and which ones have learning aims? Which are the main usage? But the most important question is: is there a structured relationship between simulations and games?

Answering these questions is not easy because of the vastness of the subject and the wide and variegated studies. But in these researches there are too many definitions of key word and haven't a shared point of view and a systematization of terminology which allows the identification of an acknowledged taxonomy.

That's why our work has glimpsed in the game the discriminating element to offer a proposal of taxonomy. At the beginning of the proposal there's a fundamental question: what happens if we consider the relationship between games and simulations?

The chapter will build on the introduction of the concepts of simulation and game from their lexical definition and, after identifying the respective domains, we will see how these two sets, suitably intersected, giving rise to a third set, that

of serious game. Starting from the definitions and relationships obtained in this first part, we will present our proposal of taxonomy.

In Background we will examine the theoretical foundations of the taxonomy: we will study the game based on the writings of Johan Huizinga and Roger Caillois and analyze the ambiguous field of simulations from the lexical lecture of the subject.

In the Main focus we will discuss about what we could deduce concerning games, simulations and serious games to formulate the proposal of taxonomy which can provide some acknowledged reference points useful to categorized simulation products.

In this way we'll arrive at a well defined classification of Serious Games, the games considered 'serious' because of the serious educational purpose of learning. Right now we could consider these games as eclectic products firmly rooted in education and beyond in greater uptake.

1.1 BACKGROUND: THEORETICAL PRINCIPLES

1.1.2 Definition of Simulation

The confusion of terms and definitions and the lack of a uniformly accepted vocabulary make the semantic definition of the term simulation rather difficult. This is because, as Taylor (1999) affirms, all those who have been to investigate this argument (institutions, companies, researches, users) have drawn on a different semantic sources to meet their specific needs, up to produce a vocabulary rich but confused.

The term simulation comes from Latin and is frequently used with a negative connotation, aimed at drawing something which is not real or, that's the worst, which is a deception, a trickery. The term is also used to represent a human connotation: to feign feelings, qualities, aptitude and attitude that could generate false opinions and benefit mistaken

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