

# Chapter 6

## Theoretical Reflections on the Construction of Simulation Games

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### **ABSTRACT**

*With the aim of studying the process of transcoding and identifying the meaning assigned to specific research variables described in the present work, a number of reflections are presented in this chapter that, apart from supplying the methodological background for the teacher, allow researchers to identify the main factors that distinguish the traditional classroom lesson and the experimental method represented by simulandia games. In particular, reference is made to the work of Bloom, Gagné and Gardner and Bandura's concept of self-efficacy.*

### **BENJAMIN BLOOM'S TEACHING THEORY**

At the end of the 1970s, Bloom elaborated the well-known Model of School Learning (1976) with the aim of drawing up a scientific procedure for studying the possibility, through numerous researches at micro-level as well as large scale longitudinal studies at macro-level, of using individualised teaching methods to modify aspects which, according to traditional pedagogical theory, were considered innate and, therefore, impervious to change. The goal of this research was to focus attention

DOI: 10.4018/978-1-60566-930-4.ch006

on learning conditions and on the quality of the teaching in order to offer all pupils the opportunity to reach the results aimed for by the teaching project and maximise their potential. Bloom considered four factors affecting each pupil's learning performance: family background, the level and kind of cognitive ability at the beginning of the teaching-learning process, the affective factors and the time taken by each pupil in the execution of a piece of work (time on task)<sup>1</sup>. This final variable was first analysed in depth by Carroll (1963) and later by Block (1972) and Anderson (1976); the main conclusion drawn from these works was that the time needed for a pupil to complete a task is variable. If, in fact, pupils are offered the help and the time needed to learn, then they not only become able but also manage to achieve the desired results in ever-shorter time spans. The research work of Bloom (1993), moreover, estimated the incidence and interaction of the three variables that the author considered sufficient to explain the learning results of any student, two of which refer to the learner while the third concerns the kind of teaching, i.e., the required knowledge and ability of each pupil, affective factors at the outset of the learning process, and finally the quality of the teaching:

- *Initial cognitive behaviour* This refers to the overall mix of different kinds of knowledge and abilities required to proceed with learning; in other words, the prerequisites which can be broken down into general prerequisites and specific ones: the former necessary for the learning of any discipline (general intelligence, reading ability, logical capacity, calculation speed and so on). The latter concern the knowledge and abilities required for the learning of a given task and are indispensable insofar as their absence would prejudice the possibility of carrying out the specific task with obvious negative implications in terms of performance and results. Specific cognitive behaviours at the outset of any learning process can be differentiated according to both the type of task and the didactic approach adopted by the teacher. While general cognitive behaviours are acquired and developed gradually over time, acquisition of specific ones may require rapid intervention by the teacher.
- *Initial affective characteristics* After an in-depth analysis carried out on learning in schools, Bloom claimed that pupils at the beginning of their school career, "... vary with regard to what they are emotionally prepared to learn depending on their interests and attitudes and the opinion they hold of themselves" (Bloom, op. cit., p 106). Bloom, therefore, wanted to highlight the fact that affective characteristics at the beginning of the learning process cover, together with the cognitive variables of the pupil and the quality of the teaching, a very wide area that has a profound effect on the final outcome. Affective characteristics concern many aspects such as: personal characteristics responsible for pupil motivation as regards learning in general and the subject in particular; emotional

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