Chapter 5
Simulation Games and Emotive, Affective and Social Issues

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ABSTRACT

This chapter presents a reflection on the subject of the skills teachers can use to intentionally influence the affective area so that this can positively influence the math learning process. Simulation games represent a learning environment in which the teacher's relational skills can be guided by models within the field of pedagogy, albeit also making use of insights from social psychology.

INTRODUCTION

One often hears it said that mathematics is a game but for most learners there is nothing to laugh about, especially those who have experienced failure. Such reactions bode ill for the future of math teaching. Emotions, feelings and states of mind often lead to frustration, and not the reorganization of behavior towards a planned commitment needed to achieve the learning objective in math. So fear, more than a resource for motivation, which should represent the emotion of *defense* from dangers and threats in the environment, and rage, which should represent the emotional

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response to those dangers and threats, increase the more widespread negative perceptions when learning math; thus three feelings about mathematics, math teachers and their teaching methods are commonly manifested:

- Inadequacy and incapacity, about onceself
- A feeling that math is something inaccessible
- A feeling that the teacher is inadequate or incompetent or both.

In the didactic relationship the above attitudes tend to perpetuate a vicious circle that has a negative influence on motivation for learning math. Certain indications on the emotions, on the believes and the behaviors caused by the *didactic relation's vicious circle in mathematics* will be described below.

The implicit assumption of our research is that the approach proposed in the Simulandia project can transform this vicious circle into a virtuous one through play and guided learning, protecting as well the learner from *racket* (Erskine.& Zalcman M., 1979). Indeed, simulation games by their very nature activate cognitive, social and affective abilities and help to build knowledge through a social process.

FEAR, CONVICTIONS AND BEHAVIOURS

Inserting in a research engine *fear of mathematics*, one can access an average of around 2,500,000 pages in which these words are found. Navigating various sites, you can discover that similar expressions used provide a sort of ranking in the intensity of fear, in which fear, as a feeling developes: anxiety, terror, anguish, panic. These reactions symbolise one extreme of the collective idea of learning mathematics. At the other extreme, you might expect to find expressions of joy as a reaction to success in learning whereas, instead, you find the syndrome of the masked man (Novellino, 2003), a syndrome that affects able students of mathematics, according to which they are seen as supermen, if not creatures from some other planet.

In the literature the theme of fear of mathematics has been the object of numerous studies inspired, in particular, reconductable to a negative experienced in an unsuccesfull occation. Tobias S. (1993) introduces the term *mathematophobia* to describe this phenomenon. Her analysis identifies fear of making mistakes as one of the most relevant factors, another is the way in which teachers rewarded or punished the partial results of learning obtained by students and again the myth that the capacity to learn is a *special gift* you have or you don't, that cannot be influenced by the way it is taught.

From the point of view of the process of social communication this causes the tendency for students, teachers and parents to adapt to a model of behaviour involv-