SIMULATED INTERVIEWS FOR THE TRAINING OF THE ABILITIES IMPLICATED IN THE DIAGNOSTIC INTERVIEW

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A study was conducted that explored a Multimedia environment as an educational tool. The environment consisted of several simulated clinical interviews with patients that had different disorders (depression, anxiety, etc.). These interviews were made to train last year Psychology students in the abilities required to perform a correct clinical interview. The aim of this study was to evaluate the students acceptation of this resource by measuring its usability and utility. Each student completed a questionnaire which featured seven-point scales (where 0 meant very negative and 7 very positive) to evaluate these aspects. Results showed average scores of 5,75 (Sd = 1,01) in usability and 6,67 (Sd = 0,82) in utility. Moreover, we compared subjects' performance in a test measuring acquired knowledge and abilities related with differential psychopathological diagnosis in two groups: Multimedia learning environments, and a conventional approach closer to the text-based instruction.

New technologies, as Virtual Reality, are getting higher importance in the educational ambit, nowadays. As suggested by several authors (Winn, 1993; Roussos et al., 1999; Stansfield et. Al., 2000) Virtual Reality represents a promising area with high potential of enhancing and modifying the learning experience: Virtual Environments can provide a rich, interactive, engaging educational context, supporting experiential learning. It's important to point out that performing the task enhances the learning process, because the student learns by doing, through first-person experience (Bruner, 1966; Moreno, R., Mayer, R.E, 2002;).
It's interesting to take into account the advantages that mean Virtual Reality characteristics (Cabero, J., 1996):

- Immateriality; because its raw material is the information.
- Interactivity; that allows subjects not to be passive receivers of information, but active and conscious processors of it.
- They have high parameters of image and sound quality.
- Instantaneous, because it facilitates the rapidity to the access and interchange of information, breaking space-temporary barriers.
- They have a higher influence on process than on products.
- And the possibility of interconnection.

Besides these advantages, any new method of education implies automatically an increase of student's attention towards it. This higher motivation has positive effects in concentration, interest, and effort employed by the student (Campbell et al., 2002).

Another important characteristic to stand out is the possibility of self-learning provided by these tools. From a constructivist perspective we assume that students are not only active processors of information, but also significant constructors of it. This mean allows the student to advance in the acquisition of knowledge at his own rhythm according to his previous knowledge and attitudes. Virtual Reality provides a tool for developing instruction along constructivist lines and an environment in which learners can actively pursue their knowledge needs. The attraction that constructivists have for Virtual Reality is that it provides the perfect tool or technology to apply their theories in the "real world". The attraction that Virtual Reality supporters have for constructivism is that it provides a theoric foundation for their work (Riva G., Galimberti, C., 2003).

One of the possibilities of these new tools is the creation of simulations (Gutiérrez, J., 1998). Simulations facilitate the realization of practices in environments of easy control for professors and students. They also

provide the opportunity of making first-person, non-symbolic experiences, since immersive environments allow to construct knowledge from direct experience by giving the participants the "perceptual illusion of nonmediation" between them and the computer. Virtual Reality technology provides learners with the possiblity to reflect and get a deeper understanding of the process through which a person can reach a knowledge of the world. Furthermore, these flexible and open tools can be used by professors in different contexts and designed learning situations.

In 1995 a tool's group was created for a course of called "Pathological Psychology", pertaining to the Personality, Evaluation and Psychological Treatment Department, which facilitated an active relation with the contents, new ways of interaction between students, and between them and professors.

The aim of one of the sections was to train the students in the skills implicated in the diagnostic interview (Gutiérrez, J; Quintana J, 2001). The clinical interview is the starting point of the psychopathological exploration, and one of its principal goals is to generate diagnostic hypothesis. From these hypothesis the psychologist starts an investigation process to corroborate or refute them by applying tests and designing specific strategies to obtain information in each case. Is in this section where the simulated clinical interviews can be found. By these interviews the students can guide psychopathological exploration sessions with different types of patients.

The system has different phases. Initial phases, which are the most schematic since they are based in textual simulations, and the following stages, that are more complex because they are based in simulations of tridimensional environments. For the time being, two levels of simulation have been developed: one of them is textual and the other is graphic, which includes basic representations of patients by audio and facial expressions.

In the context of textual simulation, seven simulations by hypertext have been made. They represent some of the most prevalent mental disorders, such as anxiety disorders, mood disorders, psychotic disorders, and personality disorders. Each one of them begins by an initial description of the problem. Starting from these data, students can formulate diagnostic hypothesis or choose one of the several questions offered by the simulation. Among the different alternatives of questions offered at each moment of the exploration, there is only a correct one, according to the hierarchic systems of differential diagnosis based on the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders). After the student chooses one of the questions, the system presents one screen telling him if his choice is the correct one depending on the data collected until the moment. As the interview goes on the diagnostic hypothesis cut down. The questions offered by the program also allow the student to learn correct strategies to obtain information in each type of patient and disorder. Feedback is given to the student each time he chooses a question or an hypothesis, telling him why his choice is correct or not, so the student learns with each answer given by the system.

Moreover, several graphic simulations have been made. Their immersion level is higher, since they don't only reproduce textual information but also simulate the voice of the patient and his facial expression. This seeks to increase the possibilities of learning generalization since the simulation is closer to real situation. Immersion is also increased by the higher possibilities of interaction and graphic resources, which also imply higher levels of motivation in the student. Exercises follow the same structure of textual simulations: the student receives some initial information of the patient, that has to be completed by formulating the appropriate questions according to the hierarchical system of differential diagnosis of the DSM-IV. As done in textual simulations, during this process student has to choose among different diagnostic hypothesis.

Knowledge obtained by the training of abilities by graphic simulation has to be generalized to real situations in order to be successful. It's reasonable to think that the more similar to reality is the environment, the more is the probability of transfering the knowledge adquired in the virtual environment

to the real situation. In fact, Thorndike already proposed this idea in 1931. However this idea can be clarified. It is possible that a very realistic virtual environment would be even bad for the initial phases of learning and that more schematic reproductions (like the reproductions available at this moment because of technical limitations) would achieve to center the subject's attention in the relevant aspects of the task, promoting a better acquisition.

When desinging training programs, it's important to think carefully about the balance between learning intensity and learning transfer. Probably, schematic environments facilitate the initial acquirement of abilities, since possible distraction stimulus are eliminated and help the student to center his attention in the environmental relevant aspects for his learning. Nevertheless, it's possible that the more different from the reality is the virtual environment, the more difficult is the learning's generalization. In the virtual reality applications, it's necessary to find the adequate point of balance for each case between the intensity of the behavior's modification to achieve and its generalization possibilities.

So, an adequate strategy could be to move forward in the realism grade of the environments as the training goes on. Initially, the training would be based in textual simulations, followed by schematic graphic simulations, and finally, the environments woud be much more similar to the real situation in which trained abilities have to be applied. In accordance with this procedure, initial sessions should use schematic environments without distraction stimulus in order to help the student to focus his attention in the situation's significant aspects for his learning. Like this, students acquire the relevant learning, and in later sessions the grade of detail and realism of the scenes would be increased with the purpose of facilitating the learning's transference to real situations.

Like any educational strategy, this type of resources has several advantages, many of them mentioned before, and some limitations. On the one hand, among all the advantages, we want to emphasize some of them: It facilitates the self-training and overlearning, since the student can repeat the situation as many times as he wants. Specific learning hierarchies can be designed. The cost is fewer. It's an activity almost totally guided by the student, which promotes the development of operational and formal thinking, because it facilitates the exploration of different possibilities. And this kind of educational method adapts to the student's pace, timetable, and needs.

On the other hand, there are some limitations. For example, the contents of the materials must be carefully revised by the professors in order to don't cause incomplete learning.

Taking all this into account, our team proposed to prove the efficiency of this resources and the effects of its introduction in the education system, in 1998. The grade of acceptance of textual simulation was evaluated by a questionnaire in 110 students. This questionnaire asked for several aspects: The usability and utility of the system, which were evaluated with a quantitative scale from 0 (very negative) to 7 (very positive); the valuation of the system sections which the student had worked with (from 0 to 7); and the advantages and problems that the student attributed to this type of resources.

The general scoring of usability was 5,75, and 6,67 of utility. Similar results were found in Taylor's study (1997). Simulated interviews were among the best valued sections. And the most used sections were those that required interaction, either with the contents (among them are the simulated interviews), or with the classmates and professors.

Results obtained about efficiency showed that signifficant differences existed in the exam's mean scores between students that made use of internet resources and students that did not. The students that had used this resources obtained better marks. It was also observed that differences between male's marks that used internet and males that did not, were bigger than female's differences. This trend would show that males get a bigger benefit from internet's learning than females.

The general valuation of the experience developed during these years is positive. On the one hand, students receive didactic material of greater quality and more motivating than texts or traditional notes. On the other hand, these are very powerfull comunication tools, that notably increase their access possibilities to the professor and the interchange of information with the other classmates.

In the future, the intention of our team, is to produce situations of simulations for other disorders. At this moment, our team is carrying out a study to evaluate the impact of these procedures over the student's learning and motivation comparing them with traditional education methods.

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