

Chapter IV

Teaching and Learning in Virtual Environments

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INTRODUCTION

The paradigm shift that education experiments now, it does not stem neither from the existence of Internet and telematic networks nor applications of new technologies in teleformation. It comes from a lost value underwent in the 60s, one of the basis of education, that it was in continuous crisis since the 16th century: the perennial knowledge.

Since then, it was thought that people's knowledge did not change much during their whole life. Anything learned in their youth at primary and secondary school would be useful and applicable all their life. Knowledge always suffered changes and evolutions, however, at a rhythm that did not affect much individual formation.

Therefore, people learned a job after childhood and they spent the rest of their lives—in general terms—developing, improving and acquiring experience with regards to this job. In the last decades, the situation has shifted radically:

- The fast evolution of many disciplines make that any specialist should require further

education, updating courses, learning new modules, and so forth.

- Most people change jobs and adopt diverse roles in their professional lives, so they require new capacities and competences.
- Professional posts do not respond to straight professional profiles, which are homologated by suitable diplomas.

GOING UPRIVER, OR SEA NAVIGATION

We will use a hydric parable to illustrate the shift of basic paradigm that experiments education: traditional education was based on “river courses,” where students went upriver with effort, going up in different stages in which they could obtain some kind of degree (diploma, degree, PhD, etc.). But nowadays, the way of knowledge cannot be considered like an upward path that goes from the plain of a simple life to the altitudes of Gnosis.

In the same way, the shift from industrial to information society paradigm implies a move

Table 1. A hydric parable

River courses	Sea navigation
Knowledge is static and orderly	Knowledge is dynamic and shaking
Upward vertical structure of learning	Navigation in the sea of knowledge
Teachers teach, learners learn	Cooperative learning and collective intelligence
University homogenizes students	Individuals design their own multiversality
Learning a profession and starting a job	Assimilating new capabilities constantly
Learning knowledge and skills	Learning how to learn what interest us
Value of diplomas and degrees	Value of capacities and experiences
Learning based on objectives	Learning based on competences

from a vertical and pyramidal organisation to a network structure. The shift in the education paradigm moves us from a river of turbulent waters, but unchangeable in its course, to a sea of information. In this sea of information, courses are infinites and routes are sailed not only with effort in displacement, but also with the effort of cutting through waves, in which we ourselves fix destinations.

The paradigm of education in the information society passes through adapting studies to the requirements of each individual, and not the other way around, as happened in the past. Our social reality makes possible that anyone could be interested in physics of particles, biology of viruses, fractal mathematics and sociological theory. And all this knowledge may have an effect in its quality of current activities. Less bizarre combinations are produced by millions of individuals.

Key points of the new paradigm of education:

- Fostering of learning
- Training how to search information, how to process it, how to organise it, and how to distribute it
- Training how to work in teams and how to organise groups

Teaching how to learn cooperatively is a learning process in which teachers also acquire new

knowledge thanks to the synergies created. A great part of the work in many industrial professions consists of executing repetitive and predictable tasks. In the information society, most tasks are automated, and our present occupations involve every day more problems resolution, team coordination and knowledge transfer.

VIRTUAL LEARNING COMMUNITIES

A common metaphor is considering Internet as a meeting point for any virtual community, even the virtual learning communities. According to Rheingold (1996): “the communities are social aggregations that emerge in the net when enough number of people sustains public discussions over a certain period of time, with enough human components to shape networks of social relationships in the cyberspace.” Rheingold (1996) explains that:

People of virtual communities use words in screens to exchange jokes and to argue, to take part in intellectual discussions, to manage commercial operations, to exchange knowledge, to share emotional support, to make brainstormings, chat flat, to quarrel, to fall in love, to make new friends and lose them, to play, to flirt, to create art and many insubstantial conversation. The components of virtual communities make all that it is done

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