E-Learning is What Kind of Learning?

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INTRODUCTION

The knowledge society has reinterpreted the concept of knowledge, shifting from the idea of philosophical argument to an epistemological meaning linked to educational actions. Knowledge is now diffuse, not centralized, and more accessible than ever before, and learning approaches involve visual processes and nontraditional languages. This has led to a radical change in the way knowledge is transferred, away from intentional transgenerational transmission and toward self-directed learning, simplified by multimedia and technological resources.

According to current learning theories, knowledge construction may be defined as a mediative process between adaptive learning dynamics at both the individual and collective level. Research on knowledge construction has combined social contextualisation and constructivism to achieve a sociocultural view of the distributed mind. At the same time, cultural embeddedness and domain-specific situativity are interconnected with mind embodiment and the view of the environment as a holistic and synergic organism. From an educational point of view improving guidance in a diffuse knowledge society is definitely a very difficult task, notwithstanding the fact that knowledge may seem relatively easy to approach. Diffuse knowledge can be highly specialised, and may require the ability to transfer and generalise learning in order to link the various aspects that are examined. At the same time, knowledge must be contextualized if we want to identify motivational implications and, more importantly, show its actual usability at experiential level.

As technology is bound to evolutionary changes taking place in contexts within which and by which it is produced and which it produces, it is potentially "disorientating", thus becoming an object for study in pedagogical terms. It is worth considering also that it is not always easy to predict how a complex and reticular society will evolve, and that unstructured or poorly structured problems and situations may arise which are often difficult to systematise and/or categorise. This type of problematic situation points to the need to train new knowledge workers to replace those who, in the past, were used to dealing with situations that, however complex, were somehow "ordered" and predictable in the dynamics of their evolution.

Social and cultural transformations, education and training needs and technology appear to be closely interconnected, hence they should be the factors determining the new ICT solutions proposed. Pedagogy should precede technology in the sense that while technology suggests, experiments and makes available advances in ICT and new products, it is up to pedagogy to decide which advances and which solutions may actually bring about an effective development of the learning potential and of the cognitive, communicative and adaptive resources of the individual with due regard for different experiences, contexts, and evolutions.

Over the last few years the use of information and communication technology (ICT) in education and training has led to a reformulation of the teaching-learning relationship dynamics, shifting from a mere transposition of existing theories and models to the virtual world. This strand of research has shown that designing virtual learning environments is today one of the most meaningful and fascinating areas of education and technology, as regards both online and offline learning with ICT support (Frauenfelder & Santoianni, 2006).

The design of virtual learning environments cannot shy from the task of analysing, assessing and, where necessary, reformulating teaching-learning models; this line of research must also discuss what kind of learning e-learning actually is. There is no other way to approach the design of learning models which reflect the deep transformation of knowledge that is coming about, also in the virtual world.

CLASSICAL MODELS FOR TEACHING, LEARNING—AND E-LEARNING?

In technology, constructivism appears to be particularly effective when associated with a social as well as cultural interpretation of knowledge. Though these two points of view have traditionally been kept quite distinct, integration of these two strands of research now seems likely to be opening up interesting interpretative multiplicities. This integration makes synergic reconsideration possible on the part of the learner (Table 1) leading to the development of learning pathways orientated towards concrete learning supported by a social vision of the construction of the learning environment.

Toward a Socioconstructivist Approach

In actual fact, sociocultural theories and constructivist perspectives on learning diverge not only in epistemological terms—with different interpretations of knowledge—but also in ontological terms—as far as the known world/world to know and the knowing subject are concerned (Packer & Goicoechea, 2000).

From an epistemological point of view, sociocultural theories highlight the role of social participation in learning. At the forefront is the educational and training relationship itself—no longer merely who is doing the teaching (teacher-centred approaches) or who is doing the learning (student-centred approaches). It is an embedded, dynamic educational and training relationship, in which trainers are considered *experts,* skilled in managing historical change and organising social activity. In this framework cognitive responsibility is given to learners, who—in a process of *apprenticeship* and collaboration—must search for their own identity in the learning community through constant reference to the models that are available within.

Table 1. The learner from a socio-constructivist point of view

The socio-constructivistic learner may be considered as:
▪ planner ▪ explorer ▪ apprentice ▪ meta-reflective thinker ▪ member of a community

Constructivist perspectives, on the other hand, study the adaptive features which regulate the development of knowledge based on the actions and interactions of the subject in the world. In doing so, while not neglecting the role played by the social context in knowledge construction, they focus on the relation of productive interaction between self and the environment and the reciprocal transformative potential implied in this relation (Gros, 2002). The subject, then, is an explorer of pathways of guided discovery, planning strategies, itineraries, learning environments and the adaptive mode to interact. Besides considering the subject as generally interactive, which lies at the basis of the historical-social matrix, it tends towards the idea that each subject will interact with others, with the symbolic systems and "tools" of knowing, shifting from a biological to a socio-cultural metaphor of knowing (Sternberg, 1990).

In an interactivist perspective (Gottlieb, 1996; Lerner, 1998), however, the two metaphors are not necessarily contradictory, far from it; it is precisely from a pedagogic standpoint that approaches such as bioeducational sciences (Frauenfelder, Santoianni, 2003) promote a global and synergic vision.

Conversely, the possible complementary nature of sociocultural and constructivist approaches recently identified is based—from an ontological perspective—on the idea that the constructivist dualism between the knower and the known is no longer justified, insofar as knowledge itself cannot be considered as a world in itself but a world coconstructed by several individuals. These individuals, recognizing themselves as a part of that world, are both transformers of it and transformed by it.

It is precisely through this contact with the learning community—a necessary step towards a feeling of belonging—that the learner rediscovers his or her sense of individuality, often taken for granted in sociocultural approaches *tout court* and often exclusive in constructivist approaches *tout court.* As these tendencies are negotiated, new ideas emerge along with fresh modes of interpretation and innovative operative pointers for the design of socioconstructivist virtual and nonvirtual learning environments.

The socioconstructivist approach highlights the dynamics of mutual interaction between:

- **Culture:** Meaning a set of symbolic systems, cognitive artefacts, expressions of knowing, and so forth.