

Environment is a difficult and somewhat unsubstantial word, of polysemic content. One of its meanings is linked to the ecological system we are part of and includes the soil where we stand, the air we breathe and all natural and artificial objects surrounding or used by us. It could also mean the present state of Planet Earth, as a result from the delicate balance between nature's gifts and our own tendency to spoil them by means of man-made interference.

Likewise, we can think about *learning environments* with very different meanings: a very current one refers to an educational technology set-up designed to convey knowledge and to facilitate the learning process. Pushing this concept towards its most technological extreme, it can mean a complex multimedia workstation allowing for audio, video and informatic channels connecting the user both to comprehensive and diversified sources of information and to other users of the same network. Seen for this perspective, INTERNET could be defined as a learning environment.

We prefer to assign a different meaning to this expression, just by considering that the individual user is a part of the environment itself. A given user may take full advantage of the available facilities provided he or she has the right state of mind, suitable pre-requisites of knowledge and enough motivation to proceed on learning; another person with similar access to these facilities may fail to get any increment of knowledge, for lack of the previous endogenous conditions. From our point of view, a proper learning environment should allow for diversity in cognitive and meta-cognitive profiles of all its potential users.

Following the above trend of reasoning, we should think about learning environments as educational technology constructs including methodology and teaching/learning strategy, contents and the ways to access them and, most of all, the possibility of interaction between the learner and the teaching system, so as to allow for a huge diversity of users' profiles.

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We can understand better the different approaches to the concept of learning environment by analysing its typical application to the context of distance learning. Seen from the point of view of educational institutions, which the so-called open universities are a paradigm of, their whole pedagogic strategy is student-centred (as it should); system-student interaction works in a bilateral way and as frequently as possible; individual tuition and flexibility of pace take care of differences between students' backgrounds and profiles.

However, the perspective of enterprises designing and building technological equipments for distance education (as most of them proudly advertise) are much more concerned with making easier the role played by the teacher than with facilitating the acquisition of knowledge by the learner. Learning environments are described as if they were content-free and, worse than that, student-free.

This is a serious mistake (unfortunately rather frequent also among decision-makers): technology by itself is not enough of an answer to improve learning even if it may make available new opportunities for learning to a larger population of users.

We can understand that the requirements of the new Information Society call for better educated, technology apt active populations, if productivity and competitiveness are to be kept at an acceptable level. But it is certainly not enough for this purpose to provide every school and every training centre with computers and connections to telematics networks, for the most important component of a learning environment would be missing: a teaching strategy aimed at the individual learner.

This strategy must include ways to induce a proper motivation in the user, from the very beginning of the learning process: to awake the curiosity and the will to acquire new knowledge or new skills; to encourage persistence by showing when real progress is achieved; to help whenever difficulties arise and to stimulate against the risk of boredom. Friendliness should be imbedded in learning materials, in ways of operating equipments and, most of all, in every moment of interaction between the learner and the teaching system.

The above considerations apply to both conventional and advanced media that may be used to provide this kind of interaction: books should be easy to read and appealing to the sight; letters should be friendly and polite; telephone conversations unhurried and helpful; video and audio materials should be useful, convincing and aesthetically satisfactory; interactive multimedia materials should combine all these qualities and one more: the ease of navigation leading to transparency of structure.

On the other hand, learning environments should be properly adapted to culture, as well as to the social and economic profile of the user: their suitability is measured in terms of how many categories of learners will actually be able to profit from them.

As a synthesis, we define an environment suitable for learning as a construct of instructional design aimed at keeping a high level of motivation among its final users, prior to as well as during the learning process, until its successful conclusion. From this perspective, the learning environment permeates contents, learning materials, technologies, communications and all other proposed activities, as well as the special relationship to be established and maintained between the learner and all the agents representing the teaching system. Friendliness in the human as well as in the technological sense; intellectual and aesthetic appeal of discourses, arguments and illustrations; individualisation of interchanges and quickness of response are general requirements for learning environments.