

CHANGING LEARNING ENVIRONMENTS: THE REAL AND NOT SO REAL OF REALITY AND VIRTUALITY

Paper prepared at the request of the ADG/ED

by

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The following short paper has been prepared at the request of the Assistant Director-General for Education, Colin N. Power, to inform and stimulate internal debate in UNESCO. An increasing number of virtual providers of education emerge. Other, already existing, institutions add virtual dimensions to their more traditional forms of educational delivery. What does it all mean? How real are those virtual institutions? What distinguishes them from the institutions (providers of face-to-face education and distance education) we are used to? How should these developments affect us? Can lessons be learned? This paper tries to address some of these questions while raising other ones. It argues that the changes we are witnessing provide important challenges and inspiration for UNESCO.

The emergence of new information and communication technologies (ICTs) has resulted in enhanced interest to explore their potential to facilitate learning. It has become relatively easy and cheap to produce documents in electronic form. With similar ease and at similarly low cost such documents can be transmitted electronically. Everyone, it seems, can become a teacher and everyone is potentially a client for the teaching services provided by others. The idea of distance education has thus suddenly come within reach of individuals and institutions that were previously facing considerable barriers to becoming distance education providers. A naïve assessment of the situation would lead to the conclusion that the world is at the verge of solving its educational problems thanks to the power of the new ICTs. Economic interests behind the marketing of ICTs, and of the services based on their use, benefit from such superficial assessment. I call this assessment naïve as it ignores a number of basic truths. One of these truths is that the mere establishment of a communication link between learner and learning facilitator is

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a relatively minor factor in creating the conditions of learning. Another one is that the vision of learning premised on the principle of provision of information by someone who knows to someone who knows less is a limited one.

Keywords for any true learning situation are *interaction* and *collaboration*. Those who participate in the learning process must be able to connect with each other. *Networking* and *connectivity* are thus additional keywords. Moreover, learning that is worth its while will be *problem-based* and *task-oriented*. As most real-life problems transcend the level of analysis represented by isolated disciplines, *transdisciplinarity* will be another feature to be emphasized. Finally, it is in human nature to problematize the world continually, whence learning never stops. Learning is therefore an *open* process, requiring that the environment that facilitates and nurtures it be *flexible* and *adaptive* to the learning individuals and communities. This paper addresses the above key concerns against the backdrop of what is now often being referred to as ‘virtual’ learning, i.e. learning mediated by ICTs. It should be noted at the outset, though, that none of these concepts necessarily require ICTs.

The shortcomings of traditional face-to-face education, particularly its incapacity to accommodate ever increasing numbers of learners and learning needs at affordable cost, in conjunction with the kind of optimistic assessment of the potential of technology referred to above, provide a considerable push to the development of distance education. However, many of the emerging so-called virtual universities, as well as virtual learning events in other contexts, seem to be unaware that distance education is a field with a long history and a domain of study that harbors a wealth of knowledge, among other things about what can be done wrong in establishing distance education systems. Many of the mistakes of the past are thus being repeated in the present. The use of the term ‘virtual’ is unhelpful in that regard. It suggests that one is dealing with a fundamentally new phenomenon, one even that is inherently mysterious, as it is no longer real. In fact, declaring oneself virtual is often no more than a fashion statement, revealing little conceptual depth. That being the case, it is important for UNESCO to carefully choose what it should support, promote or associate itself with.

Adding to the confusion is our often limited view of learning. Many people see learning simply as the consequence of teaching. Classrooms, textbooks and teachers are, according to that view, the necessary ingredients of any environment that is supposed to facilitate learning. Such a notion is

reinforced by the common practice to only accredit learning that has taken place in an environment that includes those ingredients or that can claim having modeled itself on the same assumptions. Distance education is a serious matter only when it can be compared to school learning. Without a proper institutional context that facilitated the learning, it becomes increasingly difficult to get a learning achievement recognized. No wonder, therefore, that the development of the large majority of virtual learning environments continues to be inspired by the metaphor of the school.² The term ‘virtual’ thus refers to this same set of externalities of the conditions of learning that characterize the school and we talk about the ‘virtual classroom,’ the ‘virtual teacher’ and the ‘virtual textbook.’

In appraising the role of ICTs to facilitate learning, it is in the first place important to ask oneself what learning is. This looks like an obvious – or even silly – question, but the reality is that the interest in learning is relatively new. Educational research has largely concentrated on school-based processes and on alternatives premised on the same assumptions as school-based learning. These alternatives include most of the distance education experience, which had already firmly established itself long before the advent of new ICTs, and which is solidly grounded in the school model. Its extension and re-invention in the age of computer and satellite technology mostly does the same (as an example, see Young, 1997). Research interests are thus largely focussed on the teaching side (teachers, textbooks, delivery technologies, evaluation of the learner by the system or the teacher, etc.) rather than on what happens on the learning side. Fortunately, things are changing. It is increasingly recognized that learning is a much more complex phenomenon than what is assumed under the traditional educational (schooling) paradigm and that, in fact, even the traditional classroom is an extremely complex phenomenon, much more complex than assumed in most educational research.³ Lifelong learning is thus not just learning of the kind that people engage in when they go to school and that they may want to undergo again from time to time after they have left school. Instead, it is a fact of life that is as crucial to survival of the individual and societies as are feeding and defense. It takes place constantly, even at times unknown to the learner. The conditions that facilitate it are myriad. The traditional school context represents but

² Distance education, as it had to distinguish itself somehow from face-to-face education, on the assumptions of which it is mainly built, came to emphasize an aspect – distance – that has now largely become irrelevant. (See also the opinion piece on *The death of distance education*, published in the LWF *Technology and learning* portfolio [Chapman, 1998]).

³ An interesting sign, perhaps, of how the field of educational research is finally becoming aware of the greater complexity of the phenomena it studies, can be found in the latest issue of the authoritative *Review or Research in Education* (Pearson & Iran-Nejad, Eds., 1998), which is entirely devoted to the social organization of learning.

one such set of conditions, not necessarily effective for all, or even for the majority, of potential learners. In some cases and for some learners it may actually be seen to be counterproductive.

It is important for UNESCO to distinguish between what contributes to a real change in the world of learning and what does not. One must definitely look beyond the attraction of particular designations such as 'virtual.' The term 'virtual' has become *en vogue*. Bacsich (1996) refers to "an exasperated view of what are Virtual Universities" and qualifies virtuality in a university as "a matter of degree, not kind." In an article on *Evolving as a fourth generation university: A case study in promoting change for sustained growth at Central Queensland University*, Crock (1996) quotes the following questions raised by Bacsich:

- How do they [the virtual universities] differ from other plans to re-engineer universities - electronic universities (or was that three years ago?), telematic universities (last year or this year?), multimedia universities (the EU says this is next year);
- is it an attempt by traditional campus universities to give themselves a face-lift without really changing anything;
- or an equally feeble attempt by correspondence-based distance teaching universities to modernise their image?

Clearly, a reference to virtuality is not sufficient to signal real change and it may in fact conceal attempts to retain the *status quo ante*.

Universities, and other learning institutions, are in need of redefining themselves in much more fundamental ways than by simply continuing their old practices by modern means. The production of knowledge has become a highly networked and increasingly fluid phenomenon. Universities play a role in it, but are no longer the exclusive or even the major players. They are in need of continually repositioning themselves. In an as yet unpublished paper, Gibbons (1998) refers to the value-added inherent in the "creativity to configure knowledge and resources over and over again." These networks of knowledge production are likely to comprise more than just the academic community. Rossman (1999, in print) asks: "Are new communications and related technologies going to make it possible to involve students and the public as active partners, as well as politicians and other decision-makers, in the planning of research strategies, so that it will be easier to get the funds and support to make it possible to do what ought to be done?"⁴ Reich (1991) refers to the organizational characteristics of such environments of networked knowledge production as ones in which there is "no place for bureaucracy." By virtue of both the problems

that need to be addressed and the broadening partnership among participants in the problem-solving process, there will also be a move away from narrowly focussed disciplinary concerns towards transdisciplinarity (see for a definition of the concept – particularly in contrast to multidisciplinary and interdisciplinarity – Nicolescu, 1996. The web site of the Centre International de Recherches et Études Transdisciplinaires, <http://perso.club-internet.fr/nicol/ciret/>, is an additional source of interest).

There is great potential in the currently available technologies to facilitate learning and to increase access to learning opportunities, even among remote populations. It is important for UNESCO to remain in the forefront of these developments. Being in the forefront, providing leadership, in an increasingly networked world means that the Organization must be effective and proactive in seeking and creating partnership. It also means the responsibility to actively participate in the shared building of knowledge among partners. For this to be possible, learning should be a prime concern and a key activity among UNESCO staff. Organizationally this means that staff should be problem-oriented, participating in multiple teams whose work focuses on problem related tasks. UNESCO should itself be a leader in using and exploiting the benefits of the technologies available to the world. However, it should do so while avoiding to simply follow fashions.

One area in which we could – and in fact should – lead, relates to the following issue. There is an important need to revisit our conceptions (and preconceptions) about learning. By its very constitution, UNESCO is under a unique obligation to play a key role in redefining the world of learning. Isn't the Organization concerned, after all, with *the minds of men and women*? Why then are we so almost exclusively focussed on systems of schooling and do our own organizational structures reflect so much that preoccupation? If we are able to see that school-based learning is only part of the wider landscape of learning, then we can ask ourselves the question, *If learning needs pervade human life, if they occur both along and across the lifespan, how can society best create the conditions and infrastructure that comprehensively, adequately and sustainably attend to those learning needs?* In that context there is no doubt that the new ICTs, alongside many of the older technologies (including human dialogue, writing, print, radio, TV), will play crucial roles. And so will the redefined institutions of the past, the school, and for that matter the university. It is therefore important to identify, monitor and bring out those developments that are

⁴ Quoted from draft review copy by permission of the author.

most relevant and inspiring in bringing about change. This is an ongoing effort, requiring more than a superficial investment. Technology itself is providing the tools that make it possible. World Wide Web sites like those maintained by *Learning Without Frontiers* (<http://www.unesco.org/education/lwf/>), the *21st Century Learning Initiative* (<http://www.21learn.org>) and the international network *New Horizons for Learning* (<http://www.newhorizons.org/>), to name but a few, are examples of such efforts. Such web sites often become nuclei for the creation of communities of learning and interest. While they operate in the so-called virtual domain, and people who relate and contribute to them may never meet, such communities are not less real.

Learning can no longer be seen in isolation. It is intimately linked to our active involvement with and in the world. Any organization, whether a university, a commercial enterprise, UNESCO, a ministry or a non-governmental organization, that is serious about its involvement in the fundamental transformation processes that characterize the modern world, should itself be a learning organization. Such institutions should not look upon themselves in the first place as isolated autonomous entities, but be aware of their potential roles as components in networks, actively seeking partnership and exploring the available technological resources to that effect. The Global Knowledge Partnership, to which UNESCO pertains, is an encouraging example of this. Some specific areas of concern are making important inroads in redefining themselves both conceptually and technologically and can serve as inspiring models. Medicine is one of them. A look at a site like <http://www.gen.emory.edu/MEDWEB/keyword/telemedicine.html> may give an idea of what is at stake and the complexity of the environment of change in question. The fields of engineering and environmental science are other interesting examples to look at.

This paper has taken a critical view of the tendency to interpret a statement of virtuality as an indication of positive change and progressiveness. It has argued that caution is required and that there is reason not to become excited too easily. However, a call for caution is not the same thing as a recommendation to stay away from new developments. Quite to the contrary, UNESCO should participate in, and be in the forefront of, new developments. It should do so, though, motivated not by the concern to follow the latest trend, but instead to focus on the most profound problems the world is facing and do so in the best way possible, making use, in a critical way, of all available knowledge and technological capacity. The development of learning – and not just schooling and its various derivatives – should be among the key concerns. The social organization of learning should be fully recognized and it is thus important to look at learning not

just as an individual act. The focus on learning should at the same time be a focus on empowerment, the facilitation of participation and integration in relevant contexts.

Driven by the above concerns, UNESCO has engaged, and will continue to engage, in creating learning environments that some call 'virtual.' More important than the irrelevant label 'virtual' is that such action focuses on satisfying human learning needs in development contexts that aim at building sustainable livelihoods. Furthermore, the processes involved are typically collaborative, both within the House and with partners outside UNESCO. Some examples are the use of interactive television for teacher education and support to improve the quality of basic education; the provision of Internet connectivity to create learning networks among African teachers; the development of so-called Multipurpose Community Telecentres to facilitate learning for development in rural areas; the development of Internet-based peace communication; collaboration with the MIT Media Lab on the preparation of the Jr Summit '98; the provision of training via the Internet on the planning of school textbook development and on financing of universities. The building – from the bottom up – of infrastructure, competence and attitudes to accommodate the learning needs of all in Mozambique contemplates various so-called virtual dimensions. Most recently, UNESCO has started exploring collaboration on the Virtual Scientific University with the Biotechnology Institute of the University of Maryland as well. The list is far from being exhaustive. It is also far from being special. And in fact, it's irrelevant. The fact that particular technologies are being used in the above settings distinguishes those actions in no fundamental ways from other ones that aim at breaking down barriers to learning and at establishing comprehensive learning environments responsive to diverse individual and social human learning needs.

It was mentioned above that one of the common characteristics of the above areas of action is collaboration. That aspect may stand out as a very important one. If the increased ease and convenience of networking has been facilitated by the availability of new technological means, then this may be seen as one of its most beneficial effects. Such a positive outcome, though, should not be attributed to technology as such, but rather to the ways human beings decide to use the technologies they develop. Actions that promote and set concrete examples of effective collaborative partnership for learning are no doubt among the things that UNESCO should pursue.

The emergence of so-called virtual learning environments is an opportunity and a challenge for UNESCO – and others with a similar interest in the shared construction of knowledge – to look at themselves and the world as interacting wholes and to redefine themselves accordingly. Universities are quickly adapting themselves to new realities. The processes of change they participate in are triggered by much more than the mere availability of new technological options. As universities become increasingly part of larger knowledge building networks, the way they change will affect others. Creative and flexible networking, broadening of partnership, teamwork, problem driven and task oriented approaches, and transdisciplinarity are among the key challenges UNESCO faces in a world in which new ICTs are but one determining factor that has added new dimensions to our realities.

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