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HELIOS: Redefining e-Learning Territories

Claudio Delrio, SCIENTER, Italy

Thomas Fischer, FIM-NewLearning, Germany

Summary

For a long time, the evolution of industrial society has been represented in terms of growing functional differentiation between different social spheres. According to this paradigm, the more a social phenomenon is developing, the more it moves from an undifferentiated nature to its differentiation into different social spheres or systems, assuming different functions in each of these. Thus, it could very well be true that the evolution of e-Learning over recent years has corresponded to its functional differentiation.

However, it is not possible to assume that the only divisions of evolution for e-Learning are to be associated purely with functional differentiation in social sub-systems. Many other possible divisions are emerging (e.g. by sector, purpose and target group) and have contributed to a growing differentiation of e-Learning. Moreover, technology enables an increasing number of scenarios of use; e-Learning has been often associated to face to face learning in blended formats and country-specific e-Learning developments can be identified.

Instead of focusing on unidirectional laws of evolution, taking a descriptive and inductive approach and attempting to insulate and spot coherent areas of e-Learning, it is probably more appropriate to capture a multiform phenomenon such as e-Learning.

Therefore, this article presents the so-called 'e-Learning Territories', created by the HELIOS consortium. The e-Learning Territories are considered useful for several reasons:

- They help to overcome views on purely functional differentiations of e-Learning and its development;

- They contribute to overcoming the debate on the disappearance versus full deployment of e-Learning, as it is argued that e-Learning is at different evolutionary stages in different territories;

- They provide a platform for dialogue for practitioners and policy-makers, and they are expected to nurture the research agenda of researchers;

- They support networking, coordination and integration among sectoral, specialised and national observatories and projects;

- They promote 'benchlearning', as they suggest a shift from comparative assessments towards reflective and adaptive analysis;

- They therefore contribute to the identification and collection of relevant indicators on e-Learning development and impact within each territory.

- They can finally be used as a roadmap for e-Learning developments, starting from a territorial, instead of an aggregating, position.

Keywords: e-Learning, e-Learning Territories, evolution, mapping, observation

Introduction

In Greek mythology, Proteus is the son of Poseidon. He is blessed by the gift to be able to foretell the future, but first you have to catch him. This may be difficult as he is also able to change his appearance into all possible forms. Hence word 'protean' with the general meaning of 'versatile', 'mutable', 'capable of assuming many forms' is introduced to describe the current e-Learning phenomena.

It can be argued that the evolution of e-Learning over recent years mirrors its 'protean' nature. And it is furthermore difficult to predict in an univocal way its evolution as it is taking many different forms in different contexts, settings and individual and societal 'life worlds'.

For long time social scientists as Émile Durkheim (1893) conceptualised the continued development of industrial society in terms of growing functional differentiation among different social spheres. According to this paradigm, the more a social phenomenon is developing, the more it moves from an undifferentiated nature to its differentiation into different social spheres or systems (for instance the economic or the political sphere) assuming different functions in each of these.

Following this theoretical approach, it might be indeed true that the evolution of e-Learning over recent years has corresponded to its functional differentiation. Certainly e-Learning takes different forms, for instance, in different learning systems and their sub-systems (e.g. vocational training, corporate, education…).

However, a purely functionalist approach is not sufficient to seize the poliedricity of e-Learning in complex societies (Luhmann, 1995).

Among the several criticisms that have been raised to the functionalist approach (Coser, 1977), one is definitely central for e-Learning: it is not possible to assume that the only cleavages of evolution for e-Learning are to be associated purely with functional differentiation in social sub systems.

Many other possible cleavages are emerging. Not only a rich debate, numerous documented practice cases and a growing amount of literature have enhanced (and at the same time threatened) the concept of e-Learning by associating it to more established modes of learning, giving origin to the so-called 'blended' learning approach. At the same time varying fields of application (e.g. by sector, by purpose, by target group) have contributed to a growing articulation and differentiation of e-Learning. Moreover, these developments take place in a context where technology enables an increasing number of scenarios of use. Finally, country specific e-Learning developments can be identified (Danish Technological Institute, 2004; L-CHANGE, 2004; Demunter, 2005, 2006; HELIOS, 2006).

How to catch 'proteus' e-Learning in contemporary societies?

Instead of focusing on presumably unidirectional laws of evolution taking a descriptive and inductive approach and attempting to insulate and spot 'coherent areas' of e-Learning, not necessarily corresponding to traditional segmentations related to the functional differentiation paradigm, seems to be more adequate.

The HELIOS consortium (HELIOS, 2006) attempts to escape simplistic views of e-Learning differentiation by developing a map of so-called 'e-Learning Territories', which are still "largely unexplored" (Salmon, 2002). Some of the e-Learning territories are already in the consolidation phase, while others are currently emerging. Some are clustered according to their purpose, some other according to the education or training sector in which they are mainly observable, others are of more 'transversal' nature. Every territory implies different visions and perceptions of e-Learning, sometimes with rather permeable boundaries, but also with clear 'identities' that provide analytical ground for differentiation.

All the emerging and consolidated territories of e-Learning can be represented graphically according to their position on a map defined by a first continuum ranging from formal learning

to informal/non-formal learning (Commission of the European Communities, 2000; CEDEFOP, 2002, 2004).

Some of the territories still reflect the traditional articulation of learning systems into sectors and their physiognomy is influenced, but not 'overturned' by e-Learning. In contexts such as 'ICT for Learning Purposes within Schools' or in Vocational Education and Training (VET), despite the introduction of e-Learning (indeed with a varying degree of implementation) the vast majority of learning initiatives occurs in a context that is organised and structured in a substantially formal and 'traditional' way. On the other hand in territories as 'Non professional e-Learning Communities' or in 'Communities generating e-Learning as a side effect', e-Learning is usually not organised or structured, nor necessarily intentional from the learner's perspective. One might therefore argue that informal e-Learning (Conner, 2005; Cross, 2003;) sometimes circumscribed as 'Google-learning' defines the vast and almost infinite universe of informal learning activities. Moreover, especially in the territories in which informal e-Learning prevails, online services look increasingly centred on their users, or even are co-built with users, supported by the emergence of open source software and contents (such as 'Second Life', 'creative commons', 'YouTube' or 'Flickr'). Successful blogs, vlogs, podcasts, virtual communities and forums are indeed those, which are created bottom-up by individual or groups of 'netizens' (Tapscott, 1999; Downes, 2005; Stephenson, 2005; Veen, 2005) and not imposed from the top.

Another discriminating cleavage or continuum, which may be useful for mapping e-Learning territories is the distinction between 'intra-muros' embodying the transition to a virtual environment of a group established in presence, and 'extended learning context', representing a diversification of learning contexts, settings, persons and organisations involved.

There is nowadays a widespread pressure on learning systems towards openness, internationalisation, enrichment and increasing boundlessness of learning contexts. Along these lines, the extension of e-Learning contexts corresponds, for instance, to such trends as the increase of international virtual mobility exchanges and the multiplication of learning spaces and arenas (Stephenson, 2005; LEONIE, 2005).

The extension of learning contexts should be also appreciated in the framework of the Lifelong Learning (LLL) paradigm. Due to the increased participation in learning and the improved flexibility of the learning delivery, there is an increasing societal diversification of 'learning patrimonies' (POLE, 2004) or learning contexts surrounding learning experiences. This diversification can be seen on the basis of such elements as (Sheinberg, 2001):

- Physical features: age, gender, disabilities;
- Educational background: fields of study, degrees earned, digital literacy;
- Cultural background: language, place of origin, traditions, sensitive subjects, migration status
- Occupational background: experience, time in current job, relationships with other participants;
- Psychological variables: needs, intentions, expectations, motivation.

The whole notion personalised e-Learning experiences is based on considerations on these fundamental contextual elements.

On the other hand, the diversification of learning contexts has not meant the disappearance of classrooms and institutions. With regard to e-Learning, this could imply the change of a school setting or a working group created in presence (or 'intra-muros') into a virtual environment. The most common dynamic of blended learning is transformation: group formed in presence and within the boundaries of a single institution or a number of institutions develops on-line with the possibility of further physical moments. In these situations, e-Learning does not serve the purpose of going beyond traditional/institutional learning

contexts, but helps to maintain the social (and emotional) ties, which have been developed within the classroom or within the institutional context of the learning experience.

In summary it can be argued that a discriminating choice for present and future e-Learning is either to go deeper (i.e. maintain, develop and reinforce the relational ties created intra-muros) or to go wider (i.e. allowing to expand relational networks beyond organisational and social cultures as well as geographic boundaries).

The positioning of the e-Learning territories represented in the following map (see Figure 1) depends on the proximity of each territory to the identified cardinal points i.e.: informal versus formal learning and 'intra muros' versus 'extended learning context'.

The 'e-Learning territories' approach therefore advocates additional layers of differentiation and articulation in order to better understand the present and future dynamics of e-Learning.

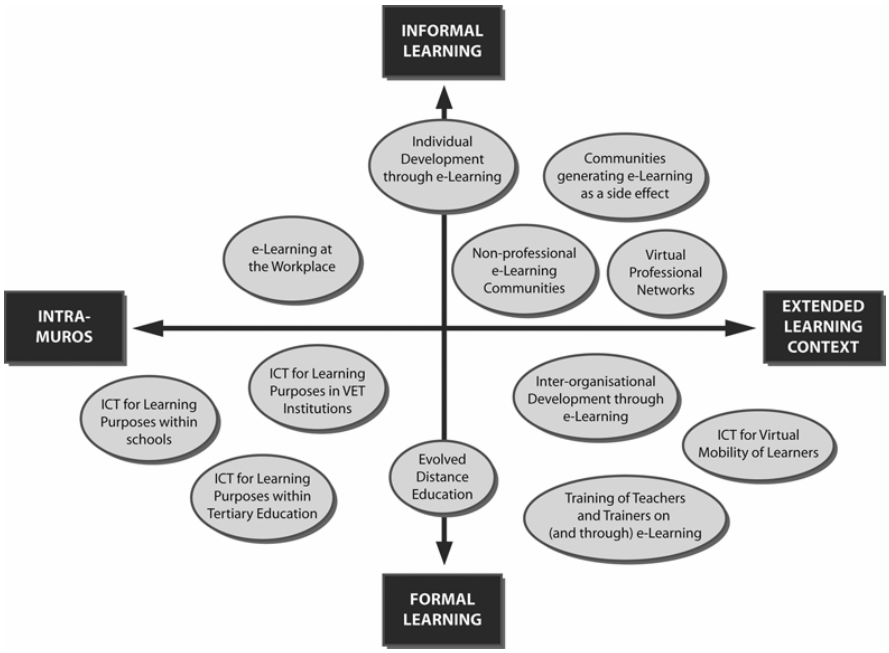

Figure 1: HELIOS Map of e-Learning Territories

The main territorial features are described in Table 1 together with current and emerging trends observable in different countries.

e-Learning Territory	Main Characteristics
ICT for Learning Purposes within Schools	Use of ICT for learning within school settings. The range of institutions covered by the term varies from country to country. The term *school* refers to primary schools (sometimes divided even further into pre-schooling and junior schools) and secondary schools. The applications of e-Learning within schools can take several forms: activities enabled through ICT conducted into classroom or at a distance (e.g. e-Homework); activities led by teachers or organised by learners' group, activities involving a single classroom or classroom networks, school e-twinning, etc (L-CHANGE, 2004; EUN, 2007).
ICT for Learning Purposes within Tertiary Education	Use of ICT for learning in universities, colleges etc., which may lead to an academic degree, and in research centres. The applications of e-Learning can take several forms, ranging from lectures placed on line by a single teacher, to the dual mode or mixed mode (institutions offering programmes for both campus-based full-time students and off-campus part-time students), to the provision of degrees entirely on line. Even students or the faculty/teachers or even the university or region/country can lead initiatives (Bang & Dondi, 2001; L-CHANGE, 2004; PLS, 2004; SEEQUEL, 2004; OECD, 2005; Stephenson, 2005).
ICT for Learning Purposes in VET Institutions	Vocational Education and Training (VET) prepares learners for careers or professions that are historically non-academic, but rather related to a trade, occupation or 'vocation', in which the learner participates (or aiming at). Vocational education is in most cases a form of secondary or post-secondary education. In some cases, vocational education can lead to tertiary education study and an academic degree, however it is rarely considered in its own form to fall under the traditional definition of higher education. e-Learning in the vocational training settings encompasses ways of delivery similar to those endorsed in school education or higher education, or to those endorsed in the corporate sector (i.e. e-Learning chunks on demand/on the job). In any case the most significant 'trait d'union' of the majority of e-Learning application into VET is the competence based approach, directed at current and likely future jobs, duties and tasks within an occupation or industry (CEDEFOP, 2002; Kearns, 2002; L-CHANGE, 2004; Snook, 2004).

Table 1: Main Characteristics of the HELIOS e-Learning Territories

e-Learning Territory	Main Characteristics
e-Learning at the Workplace	Use of ICT for learning into the corporate sector and the public administration/agencies. Differences in the scope and in the delivery schemes of e-Learning, between the public and the corporate sector, prevail mainly due to the organization structures and practices and the related human resources policies. In general, e-Learning may take the form of structured training programmes fully on-line or blended schemes (complemented with seminar/classroom based training), e-Learning chunks on demand/on the job. The driving concerns related to most of these e-Learning offers are the return on investment (emerging also in the public sector), the increased access and flexibility in training delivery, the contribution of the e-Learning in achieving organisational change and fostering knowledge management practices. In this territory the slow emergence of "communities of practice" approaches is also observable in the most sophisticated organisations (Argyris & Schön, 1978; Kearns, 2002; Crompton & Munro, 2003; Piskurich, 2003; L-CHANGE, 2004; Snook, 2004; Stephenson, 2005).
ICT for Virtual Mobility of Learners	Virtual mobility is considered an instrument for internationalisation, learning, working, etc., further contributing to the integration of the European area. Virtual mobility has been at the heart of open and distance learning (ODL) projects of the European Commission since the second half of the 90s but its full scale development depends, to a large extent, on the establishment of strategic partnerships among education and training institutions focused on research collaboration and curriculum development. Constituting elements of virtual mobility are: trans-national lectures and/or learning materials, cross-border recruitment of students, intensity of communication flows, the international accreditation of learning achievements, the multilingualism, complementary to both physical mobility and conventional teaching (Bang & Dondi, 2001).
Evolved Distance Education	According to its original definition, distance education takes place when a teacher and his/her student(s) are separated by physical distance, whereby technology means, often in concert with face-to-face communication, is used to bridge this gap. Distance education programs can provide adults with a second chance at a college education, reach those disadvantaged by limited time, distance or physical disability, and update the knowledge base of workers in on-the-job training schemes. The evolution of distance education is mainly featured by the wide adoption of ICT, as delivery means (by the "traditional" distance universities and distance learning organisations), as well as at the institutional level, through the 'birth' of a new generation of organisations exclusively offering distance and open education, in particular at the university level (e.g. UOC).
Training of Teachers and Trainers on (and through) e-Learning	In the foreseeable future teachers and trainers will make even more use of ICT for professional activities including lesson planning and preparation of didactic materials, recording learning progress of the students and other administrative tasks, as well as their own professional development and continuing education. Many governments are investing in preparing teachers and trainers for a 'technologically rich' future: enabling them to acquire proficiency in using technology for education purposes and also challenging their pedagogic practice (Papert & Cavallo, 2000; L-CHANGE, 2004, EUN, 2007).
Individual Development through e-Learning	Individual development through e-Learning includes 'home learning' as a whole, ranging from education to training related activities, together with any other technology-enhanced learning activities not necessarily mediated by formal E&T institutions, in a 'Lifelong Learning' (LLL) perspective (Commision of the European Communities, 2000; Conner, 2005; Cross, 2003; Downes, 2005; eUSER, 2005; HELIOS, 2006; Tapscott, 1999).
Virtual Professional Networks	A professionally oriented virtual community is geared towards professionals and/or facilitates the dialogue on professional issues. Professionals participate in this type of communities, in order to contact each other and exchange information with people outside their own team or organization who require similar information to carry out their own (professional) duties. In these communities learning is sometimes intentionally generated in order to achieve professional development goals (although non professionally related learning might be a side effect; Brown & Duguid, 1991; Kearns, 2002; Piskurich, 2003; O'Murchu et al, 2004)

Table 1: Main Characteristics of the HELIOS e-Learning Territories (cont.)

e-Learning Territory	Main Characteristics
Inter-organisational Development through e-Learning	Inter-organisational development can be described as a cooperative relationship between organisations that relies on neither market nor hierarchical mechanism of control but it is instead negotiated in an ongoing communicative process. Collaboration between organizations has come into focus in recent years with the recognition that success in a global economy comes from innovation and sharing of ideas. The more change there is in its environment, the more connections an organization needs with the outside world. e-Learning , given the networking possibilities that it enables, is increasingly used for the purpose of inter-organisational development (Argyris & Schön, Rashford & Coghlan, 1987; Senge, 1994; Piskurich, 2003; Holmqvist, 2003).
Non-professional e-Learning Communities	Non-professional learning communities can be found, for instance, in the areas of E&T, if learning is shifted to the 'virtual space'. They can be created by training providers as a complement of a course or by grassroots initiatives due to a common personal (non-professional) interest. Their learning purpose is explicitly perceived and agreed by all members of the community, although not necessarily leading to formal recognition. Learning taking place in these communities might contribute to the development of skills and competences for the workplace, but also for private and social life (Conner, 2005; Cross, 2003; Downes, 2005; eUSER, 2005; HELIOS, 2006; Tapscott, 1999).
Communities generating e-Learning as a side effect	These virtual communities do not foresee learning as their main objective. Establishing a relationship to other members of these communities is prompted first and foremost by a common interest or common value commitment resulting from either geographical or intellectual proximity, demographic similarity, common hobbies, belonging to the same NGO or charity, to name a few. These communities may take the form of popular chat rooms, blogs, fora where informal learning takes place (Conner, 2005; Cross, 2003; Downes, 2005; eUSER, 2005; HELIOS, 2006; Tapscott, 1999).

Table 1: Main Characteristics of the HELIOS e-Learning Territories (cont.)

Conclusions

The presented analysis and the findings of HELIOS until today are not all suggesting an 'atomisation' of e-Learning as none of the introduced 'e-Learning Territories' should be conceived as insulated areas with impermeable and static boundaries, but implies that further research is needed on the interdependencies and interactions of territories and their contextualisation into learning patrimonies.

Neither should be excluded that new e-Learning territories may emerge and replace those proposed or significant re-restructuring or restructuring of e-Learning territories may take place. Moreover, different representations and descriptions of the variety of present e-Learning developments are equally plausible.

However, the articulation of 'e-Learning Territories' and their assessment and analysis by the HELIOS e-Learning Observatory as they evolve over time are considered useful for several reasons:

- They helps to overcome views on purely functional differentiations of e-Learning and its development;
- They contribute to overcome the debate on the disappearance versus full deployment of e-Learning (Ritzel, 2006) as it is argued that e-Learning is at a different evolutionary stages in different 'territories';
- They provide a platform for dialogue for practitioners and policy makers, and it is expected to nurture the research agenda of researchers;
- They support networking, coordination and integration among sectoral, specialised and national observatories and projects;
- They promote 'benchlearning' as they suggest to shift from comparative assessments towards reflective and adaptive analysis;

- They therefore contribute to the identification and collection of relevant indicators on e-Learning development and impact within each 'territory'.
- They can finally be used as a roadmap for e-Learning developments starting from a territorial instead of an aggregating position.

As 'proteus' e-Learning is able change its appearance easily, rapidly and steadily, the above indicates to enframe current snapshots on e-Learning by 'e-Learning Territories' in order to achieve a more valid picture of the current state of play as well as the on the possible futures of e-Learning.

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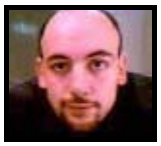
Authors



Claudio Del Rio
Researcher
SCIENTER
cdelrio@scienter.org

Thomas Fischer
Senior Reseracher
FIM-NewLearning, Friedrich-Alexander-Universität Erlangen-Nürnberg
thomas.fischer@fim.uni-erlangen.de

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