E-learning and culture

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At the beginning of the new millennia, the European Union – within the eEurope 2005 programme – emphasized the importance of e-learning, through it's actions and policies. For developing a new, knowledge based society, e-Learning, along with internet communication technologies is a necessary tool, but it's introduction into higher education has some serious implications concerning the academic culture and the information technology skills of the academic staff. This would require a cultural change, with special regard on the communication with students. Since this change does not seem possible, other solutions have to be found, as shown in the article.

1. The information society and learning environments

The development of the information society – which is in the focus of the European Unions agenda - requires some changes in our education methods. One may call this a paradigm change, from a traditional education environment toward a constructivist learning culture. The two extents of the different education approaches can be characterized, as shown in Table 1.

According to the most of the scholars, the change toward the constructivist environment requires the extensive use of so-called internet communication technologies - ICT, or – phrased differently, but with similar meaning – computer mediated communication – CMC.

Being far from arguing this opinion, one should take into account that on the right side of Table 1 there is no mention of computers, neither the internet, that is the use of ICT is not a definitive must in a constructivist environment. Still, viewing the summarized features of this type of education as a whole, the usefulness of the new information technology is unquestionable.

These methods fall under the umbrella of e-learning, which is considered as the integration of several related, and well-known approaches of education. These approaches are shown in Figure 1.

Traditional education environment	**Constructivist environment**
Teaching facts and rules, ready-to-use solutions	Developing skills, competencies, attitude
Transferring ready-to-use knowledge	To develop the ability of life-long learning
The sources of knowledge are the institution, the teacher, the learning material	The integration of knowledge-elements from different sources
The instruction of the teacher is dominant during the learning process	The student develops his/her knowledge in a complex, informing environment
Strict schedule and curriculum	Project-based learning
To learn is a hard work	To learn is an interesting challenge
Learning in the classroom	Learning in the library and other places
Learning within the frames of a class	Learning in small groups
Learning in homogenous age-groups	Learning in heterogeneous age-groups
Learning groups within the school	Learning groups from different institutions, connected via the Internet
Accommodation and conformism	Creativity, criticism and innovation
Following external rules	Creating internal rules and principles
Conformity to the teacher	Conformity to standards
Closed, linear, mono-medial learning environment	Open, multi- and hyper-media

Table 1. [1]

In a so-called pure e-learning environment, where the learning process, the evaluation and the administrative tasks are all carried out without any personal meeting, only using computers and the network joined them is rare, and requires special attitude described as follows on the part of the learner.
The ideal e-learner should be:

- autonomous, capable of processing the learning material on his own
- communicative
- a team-worker, to solve problems in and deal with small groups
- highly motivated
- creative and critical
- possessing the necessary IT skills
- able to integrate several information sources
- tolerant, able to cope with heterogeneous groups.

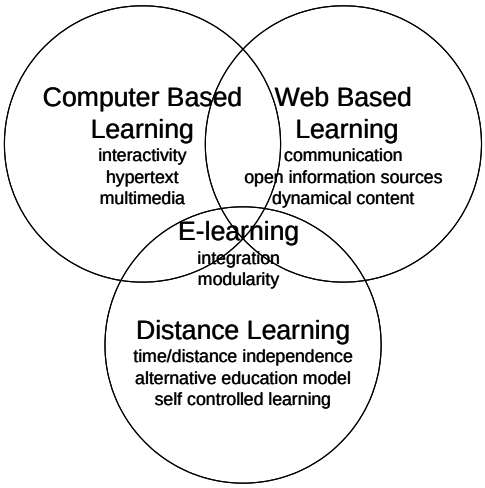

Figure 1. [1]

It would be difficult to argue with the opinion that one would have a hard work in finding someone who fulfills all of these requirements, although in the case of enterprises, in relatively large, profit-oriented organizations e-learning already has an important reputation. This reputation is based on the fact that e-learning has its origin in the competitive, profit-oriented culture, and during its development it was mostly affected by the needs of the corporate sector. Consequently, modern companies has the features necessary to use e-learning in its 'pure' form. These features are as follows:

- Having the necessary infrastructure, e.g. the network, computers and support to maintain the relatively problem-free operation of the environment.
- The motivated employees, who can work either autonomously or in team.
- The necessary IT skills.
- The profit-oriented view of carrying out company-wide learning projects, e.g. taking into account the financial and time constraints.
- A creative and critical attitude on the part of the learners.
- Often a relatively simple curriculum.

One can see a pattern here: obviously, the development of e-learning method went on collaterally with that of the IT technology and infrastructure, and striving for the effective use of the latter, the use of e-learning, along with its counterparts e.g. CMC, web-based forums, instant messaging, etc. emerged, necessarily.
An aspect of the close relations with IT, company culture has been slightly affected by the so called 'geek' culture, in other words the employees has learned the efficient use of the tools necessary for accomplishing their everyday tasks, and, as a result, the introduction of e-learning – with its similar methods and techniques - and the related software didn't come as a shock.

2. The academic environment and IT

The traditional academic environment cannot be characterized by flexibility, which is an important goal of the e-learning approach. University curriculum is generally determined by the need to enroll students, and provide them with structural learning programs that can be managed and assessed. This culture is teacher-centered, pro-

nounces the independence of teachers, and creates student-dependency. Freedom mostly exists in the case of teachers, i.e. they are free to decide on what to be taught, when (in relation with the learning program), and how the evaluation should be carried out, but for students, these decisions are constraints: they are forced to follow someone else's prescribed learning. The central figure is the teacher, not the student, neither is the learning material. The end point of a curriculum reached, it is recognized and awarded by a degree or a certificate. In a flexible environment, students can attain their own learning goals without any reward.
Academic culture also concerns discipline-based research, where the academic staff and the students have to be in a particular location to do the research. This is a spatial dependency, and it is also in the interests of the institution, partly because the results should be assigned to the university carrying out the research.
There seems to be quite a harsh difference between the characteristics of a constructivist learning environment, and that of a university. Nevertheless, there are some aspects of the latter that – especially lately – brings some features of the flexible learning into the curriculum. For example, in most of the university programs, student can choose (at the beginning of a semester) between some courses, depending on the topic, the schedule, or on the lecturer. Most courses are divided between lectures and seminars, in other words the theory and the practice as well have been given focus. These improvements barely touch the very essence of e-learning, that is the learning process, which still carried out in the traditional way.

Information Technology	**The Academy**
everywhere and nowhere	strongly identified with a very specific location
brash young industry	a proudly traditional, ancient institution
highly unstable	the most stable institution across the world
new competitors continually emerge	impossible to break into top ranks
possibility of great profits	no possibility of profit at all
work performed by anonymous teams	centered on scholarly stars
obsolescence built in	designed to deny obsolescence
virtually instant results necessary	patience a central virtue
designed to be transparent	opaque and labyrinth

Table 2. [2]

This problem might be a result of resistance of the academic sector against information technology. More specifically, it should be emphasized that this resistance

can be only seen in the case of the teaching process, in other words it is the transfer of knowledge, the lectures, which are still classroom-based. There were tremendous investments in information technology by all institutions of higher education, and some processes have been transformed into a more efficient one using the available networks and infrastructure. For example, the library services or the student administration now exploits the advantages of information technology almost to full extent. Still, few faculties think that using new technology in education has much importance, and consequently, the higher education remains relatively resistant to the possibilities of IT.

This resistance can be partly attributed to the cultural difference between the academic and information technology environments. This difference exists despite the view that there are some characteristics shared by them:

- Both deal with intangibles, especially with ideas.
- Both are focused on networks, and on the knowledge these networks carry.
- Both are dedicated to innovation and competition, though they view it in a different manner.
- Both develops something which is later reusable everywhere.

With these similarities in mind, most of their characteristics are still competitive, as shown in Table 2 [2].

Using information technology in education – aside from administrative tasks – requires new skills on the part of the university staff. The everyday use of these skills is way beyond the necessary levels, and improving it would be difficult. This is because there are some basic conflicts – paradoxes – which are common to the higher education of today [2]:

- University people are supposed to be both communal and autonomous: these institutions exists because the will to allow researchers to pursue their own expertise, who are reviewed by disinterested experts – mostly strangers -, and the review determines who succeeds within these communities.
- Universities are protected from the environments and are expected to be a shaper of the future, at the same time. These institutions are built to generate change, still their structure remains untouched for a long time.
- Students are treated as customers, a labor force and colleagues at the same time.
- The success is measured by reputation, and everyone believes in and neglects rankings. This reputation is mostly expressed in awards, prizes, and titles, in which universities has some resemblance to military culture.
- Every university is unique, but after all, they are also very similar to each other. The main topics of courses have little difference, and – in some cases – even the lecturer can be interchangeable.

Information technology is very closely related to rational thinking, and it's incompatibility with such a paradoxal environment is expected.

Most of the obstacles related to the widespread introduction of e-learning at a university can be originated in the paradoxes discussed above. Faculties experiment with new technology, using it efficiently in research, administrative and – up to an extent – communication tasks, but hardly for presentation. The main obstacle of this is the lack of specific skills required by online presentation and courses.

3. Skills required for on-line courses

In e-learning, communication takes place mainly in two forms:
1. Via the learning material, and
2. During courses with the involvement of the online instructor, the e-tutor.

3.1. Development of learning material

In order to achieve effective education, the learning material should be interesting. A dry, boring course can be made into a experience by an able instructor or lecturer, using his or her personal influence, but pure e-learning lacks the same-place personal meetings, and consequently this influence has no communication channel. The learning material – which is mostly viewed on the screen of a computer – has to be interesting, lacking this the student will quickly find a more interesting topic on the web, considering the given course boring, and devoting little time to it. It should be noted, that in the case of company-wide e-learning the learner is directly motivated to spend his or her time with the learning material, therefore this problem does not exist there.
Developing adequate – and interesting – material for online presentation is not for the faint-hearted: it requires tremendous efforts, and practice as well. Experts of this area are usually working outside the academic sector, and their involvement into design of higher education learning material would require huge financial resources and time devoted from the university trying to improve its courses this way. Therefore, the learning material should be developed in-house, by the lecturers themselves, but following this road the result would be very similar to already existing books written by scholars.

3.2. On-line tutoring

The tutoring of online courses exhibits significant differences from that of real-time, same-place – i.e. traditional – ones. On-line courses has different communication techniques, and – in the case of asynchronous communication – the time lag between a question posed and the answer is of a great importance. Consequently, the on-line tutor has to check his or her email – or other communication tool, for example a messaging system - more frequently, answering the questions posed by the learners. This way the learner will not be hindered in his advancement in the learning material.
On-line tutoring also means the moderating of discussions related to the course, which takes place in on-line forums. The e-tutor should keep the discussion on track, and have to be capable of handling – sometimes difficult – situations originated in the apparent anonymity of on-line forums. In most cases university lecturers do not possess these specific skills.

4. The gradual introduction of on-line learning tools

How can we build the bridge between e-learning and the academic culture? This questions involves the utmost importance of e-learning. But is e-learning the only way to achieve a constructivist learning environment?
Lately the notion of blended learning has gained some recognition. Blended learning is the use of e-learning methods along with traditional lectures to exploit the advantages of both. In the case of higher education, the introduction of blended learning would mean a step-by-step approach, toward e-learning, up to the necessary extent. The university is considered a stable institution, but it can be changed, albeit slowly. Several techniques of e-learning can be used, even for a traditional course:

- learning material covering, or supporting the lecture can be made available on-line, accessible to the assigned students
- on-line assessment would give great help to students trying to measure their knowledge in a given topic, or to the lecturer who – at the end of the semester – would like get through the exam period without much efforts, avoiding errors during the assessment of students.
- forums, messaging systems for a given course can improve communication between the students and the lecturer.
- with students carrying out on-line assessment of the course, the lecturer can have an immediate feedback on the material or on his or her teaching method.

Naturally, this enumeration is far from complete, there are other techniques as well, and their application mostly depends on the will of the lecturer.
Having the necessary infrastructure, the gradual introduction makes possible that even the rigid structure of traditional higher education can be transformed – albeit slowly – into a more cooperative learning culture, which better meets the requirements of the information society.

Conclusion

The knowledge-based society, promoted by the European Union, has requirements related to learning methods. Higher education, with it's traditionally rigid structure, has been remained relatively untouched by information technology, at least on one of the core missions. Advancing toward a constructivist learning environment, the introduction of pure e-learning considered to be necessary, but it's use is hindered by the classic academic culture, and it's conflict with information technology. Still, with a gradual approach, integrating only a few elements of e-learning, the learning culture of higher education can be changed into better way of conveying knowledge in the information society.

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