Considering divergent cultural values in technology enabled learning

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Content

Abstract

In today's rapidly changing and highly competitive global environment, governments, organisations and citizens face more challenges than ever. These challenges are closely related to the Lisbon objectives, launched in 2000, of evolving Europe to "*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*", and subsequently to the Information Society (IS) and the developments in Information and Communication Technology (ICT), as well as the evolution of the internet.

The contribution of policy advances in education and training cooperation has a decisive role in the realisation of the Lisbon objectives. In addition to political cooperation on the future objectives of education and training systems in Europe and developments in ICT, the globalisation and the objectives of the Bologna Process have also set new demands on education, requiring a new paradigm of educational systems and pedagogic processes (Laurillard, 2001; Valkanos et al., 2005).

Also the multifaceted relations between Higher Education (HE) and ideals of responsible citizenship have lately been a topic of imminent interest (Ehrlich, 2000; Kezar et. al 2005). It is considered that society in general benefits when undergraduate students develop as responsible citizens through HE (Bowen, 1997; Thornton & Jaeger, 2007). Five dimensions of civic responsibility are reported as key areas of students' citizenship development, namely:

- knowledge and support of democratic values, systems, and processes;
- desire to act beneficially in community and for its members;
- use of knowledge and skills for societal benefit;
- appreciation for and interest in those unlike self;
- personal accountability.

The five dimensions represent basic cultural values promoting fairness, social equality, tolerance of divergence and personal liability. Educational institutions have an ethical responsibility in promoting values shaping responsible citizens and indications show that the institutional culture is decisive regarding commitment to promoting civic responsibility in undergraduates (Thornton & Jaeger, 2007).

The demands on the educational institutions and the educators are substantial. The prevailing cultural values of the institutions, staff and students, are crucial for policy advances in education and training.

Keywords: elearning, e-society, cultural diversity, knowledge-sharing, European integration

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EU Objectives of Education and Training

Innovation and ICT uptake in Europe are highly dependent on the e-skills of the workforce. This includes ICT-related business skills for both practitioners and users. However, evidence shows growing e-skills gaps. Within the EU there is a shortage of absolute numbers of ICT workers and a worrying decline in the number of students (particular females) studying IT and computer science (EU ICT, 2006; Georgiadou et al, 2007). Europe's educational and professional training systems do not seem to sufficiently deliver the skills needed to ensure workforce competitiveness and economic innovation. If these issues are not addressed, the competitiveness of European companies in the global market in most industry sectors will be at risk.

In the 21st century Services is one of the emerging elements of economic activity and value creation (approximately 70% of Gross Domestic Product (GDP)[1] and employment in western economies). Management of advanced services, as well as successful innovation, require different skills than the skills of traditional ICT professions. A cross-discipline skill set is required ranging from traditional ICT to management disciplines. The services economy will require fundamental changes in curricula at schools and universities (EU ICT, 2006). However, for realising the full potential in a knowledge-based economy, Europe needs e-skills, including basic skills, to be embedded throughout the population.

Future generations will gain ICT user skills as part of their education. The aims are to adapt the educational system to the needs of the digital age and to increase the use of new technologies in education. The objectives:

- Creation of schools, universities and the academic community (including administrative services) networks;
- Promotion of Life Long Learning (LLL) and training of educators and students. A cohesive action plan (in accordance with the recommendations of the eEurope 2002 and eEurope 2005 action plans), has the following aims:
    - Access to the Internet and multimedia tools by all schools by the end of the Operational Programme. One of the main objectives is supply of low-cost equipment;
    - Training of teachers/lecturers in the Internet and multimedia tools as well as other new technologies.

This also requires the:

- Development of appropriate multimedia educational applications;
- Promotion of certification of educational software applications;
- Interconnection of digital libraries;
- Creation of distance learning centres for use by educators and students;
- Compulsory Computer literacy for graduates;

[1] GDP is defined as the total market value of all final goods and services produced within a country in a given period of time (Wikipedia)

Achievement of these objectives depends on the mobilisation of new methods that accelerate the implementation process, the development of digital educational content and the effective use of available technologies.

The Lisbon objectives have a direct effect on educational cooperation, which today is widening and spans across political and cultural boundaries.

The Education Council (2001) after having reflected on the concrete future objectives of education systems and focussed on common concerns and priorities, while respecting national diversity, expressed the following general aims regarding societal aspirations to education and training:

- "the development of the individual, who can thus realise his or her full potential and live a good life";
- "the development of society, in particular by fostering democracy, reducing the disparities and inequities among individuals and groups and promoting cultural diversity";
- "the development of the economy, by ensuring that the skills of the labour force correspond to the economic and technological evolution".

These aims were adopted by the Ministers of Education and approved by the European Council to constitute the new and coherent Community strategic framework of co-operation in the fields of education and training. Three major goals to be achieved by 2010 for the benefit of the citizens and the EU as a whole were agreed upon, namely:

- to improve the quality and effectiveness of EU education and training systems ;
- to ensure that they are accessible to all;
- to open up education and training to the wider world.

In order to achieve these goals, thirteen specific objectives covering the various types and levels of education and training were agreed upon aiming at the realisation of lifelong learning. Improvements are encouraged in fields such as teacher training; basic skills; integration of Information and Communication Technologies; efficiency of investments; language learning; lifelong guidance; flexibility of systems, accessibility, mobility, citizenship education, etc.

The New Paradigm of Education

The transition to a knowledge-based economy will make education and training a lifelong process rather than an one-off activity. Where knowledge becomes the main value driver for business and the key to be employable over the duration of a working life, technology-enabled learning (eLearning) can significantly contribute to lifelong learning and make it a reality – if it is effectively and consistently promoted and can build on the necessary ICT user skills of learners.

As a result, learning is globally susceptible to remarkable changes. Visions, goals and objectives of life-long learning have to be defined in order to design the new paradigm of education. The pedagogic process involves a huge complexity comprising internal and external stakeholders, such as students, educators, managers, funding providers and the society as a whole. The product of this complex process is both tangible in the form of qualified learners/graduates and less amendable to quantification in the form of accomplishment of higher level ideals and attitudes as well as transferable knowledge and skills (Georgiadou and Siakas, 2003).

In order to meet these challenges and to respond to the changes in technology and the subsequent consequences, proactive policies are needed at European, national and educational institution levels. The current EU objective of eGovernment policies is the provision of easier access to information and the realisation of more active citizen participation (COM 229, 2005). The European core vision, shared across both industries and governments, of a converged setting for media and communication technologies and markets, affirming that every user will be able to connect everywhere, anytime, with access to adapted and high quality content and communication services, in a safe and accessible environment, is commitment of to the European governments (HLG, 2006). Broadening the context of technology and information, prompts for consideration of the role of the citizen as an active and reflective learner, who works in a networked environment in his/her own place, pace and time (Georgiadou and Siakas, 2006).

Educational institutions, educators and education procedures influence the pedagogic process, the learning context, as well as the broader societal context, including the environment outside educational institutions comprising political, economic, technological and socio-cultural aspects (Lambert and McCombs, 1998). On the other hand, the societal context influences institutions with respect to their structures, strategies, management processes and means of operating procedures, including technology and individuals, as well as the context of learning (Georgiadou and Siakas, 2003).

Open and Distance Learning (ODL) is increasingly being considered as a feasible policy option for institutions and countries, seeking to increase accessibility for large numbers of learnersto education and training opportunities. The unprecedented developments in ICTs and the rapidly shifting populations, as well as economies in transition require learning to be aligned with domains, such as physical (number of students on course, ICT uptake and national Information Society adoption levels), cultural (learners belonging to a group (e.g. country) with specific characteristics (e.g. language), intellectual (learners' existing knowledge and skills) and social (external factors including disabled students, student living in geographically remote regions and students with work and/or family responsibilities) (Georgiadou and Siakas, 2006). Advocates of ODL tend to emphasise learning technologies, such as ICT platforms and artefacts, (curricula, materials and media of instruction and delivery) rather than the learning support needed (Lentell and O'Rourke, 2004). However, the trend today is participatory computing or ubiquitous computing that spawns ubiquitous media, which in turn spawns participatory culture (Jenkins 2006). Examples that can be mentioned are: the tens of thousands of unnamed authors, a 'general public' that have contributed to Wikipedia and which updates and extends it daily; blogs providing information and commentary by anyone on the events of the day (competing with the tra-

ditional newspaper); and YouTube (competing with broadcast television), where anyone can post a video. Unlike the old media, these Web 2.0 tools are cheap, accessible and easy enough for anyone to use. In this new computer-enabled participatory culture the distinctions between writers and readers, and creators and audiences are rapidly becoming blurred (Jenkins 2006). The participatory culture has also reached education. New trends in education are self-paced, flexible, adaptive, dynamic and connective learning facilitated by networked and mobile learning. However, these new forms of distance education cannot exist without quality assurance, effective management, and tutors who provide feedback and guidance to students. Today the challenge for the teachers is to harness the massive lateral energies of peer-to-peer knowledge making by exploiting learner differences in experience, knowledge, ways of seeing and thinking.

Frequent juxtaposition of traditional versus modern/technology based learning models have in recent years been augmented by *blended learning* which is the combination of two historically separable models of teaching and learning: traditional face-to-face learning systems characterized by teacher-centred environments and a person-to-person interaction and distributed computer-based systems with distance networked learning capabilities. The convergence of these two different approaches is the result of the exponential technological growth of the last decades and the expansion of the possibilities for distributed and asynchronous communication and interaction between the students themselves and between students and the instructor. An interesting observation is that during the past ten years more than ten major new technologies for learning and collaboration have been invented (Margaris et. al, 2008). This growth is observed, not only at the hardware, but also at the software level, with the design and implementation of specialized software platforms that allow distance learning, such as course and content management systems. Typical examples of such systems used broadly in education are the Blackboard (2004) and the Moodle course management systems (Riordan, 2004; Chavan and Pavri, 2004; Coba et al., 2000).

There are many trends and issues associated with the blended learning approach. The most important of them are associated with the improved pedagogy and the increased flexibility provided by it, as well as with the progress made in factors such as the quality, effectiveness, convenience, networking and cost of the learning experience. Even though the options regarding the methods and tools used during training have been improved dramatically, the dominant teaching strategy is still the live delivery of a lecture from the instructor with the focus to be directed to the transmission of the ideas rather than to the interaction between the students and the teacher. Blended learning provides the tools for increasing the level of interaction, allowing thus the adoption of strategies for active learning, peer-to-peer communication and learner-centred approaches. On the other hand, this learning type allows the provision of a balance between the flexible and advanced learning options provided by a computer-based distributed environment and the human touch that characterizes a face-to-face interaction, a feature that is always desirable by both the students and the instructor (at least for now – a period that maybe considered as transitional).

The process of blending, and the various models designed for that purpose, can be applied to any dimension of the learning process (e.g. blending off-line and on-line learning, blending self-paced and collaborative networked learning and blending structured and unstructured learning) as well as to any one of the four available different levels associated with that process, namely, the activity, the course/ programme, and the institutional level. Across those four levels, the nature of blending is either determined by the learner or the instructor. In most cases, learners determine blending at the program and institutional level, while, instructors are more likely to play important role in determining the blending options at the course and activity level. Today learners can access education any time – anywhere an internet connection is available. This also involves wireless devices and mobile networks. The role of learners also changes from being information retrievers to actively taking part in the education process and generating content for online spaces in which they can be independent of any need for offline resource. This has become possible via Web 2.0 applications. Mobile networks are also becoming popular for delivering education materials. This increasingly permits areas of the developed

and developing worlds with limited electricity or telephone resources to gain access to on-line education (Hewling, 2008). Cultural Diversity

The rapidly changing environment and increasing international activity has created new demands on those who participate in cross-cultural activities. An increased importance of the need to understand intercultural complexity and its effects has emerged. Harris & Morgan (1991) suggest that awareness of cultural strengths and biases in terms of national and organisational characteristics can be the foundation of success. People involved in international activities can take advantage of both differences and similarities, such as commonalities, through mutual cross-cultural synergy, for growth and development.

Hofstede (1994), one of the most recognised researchers in cross-cultural studies, identified (after an extensive research in 1966 including 116,000 questionnaires in 50 different countries) four key elements or dimensions of culture, which represent common problems with different solutions varying from country to country in the following areas:

Social inequality, including relationship with authority (Power Distance);

The relationship between the individual and the group (Collectivism/Individualism);

Concepts of societal stress on achievement or nurture (Masculinity/ Femininity);

Ways of dealing with uncertainty, relating to control of aggression and the expression of emotions (Uncertainty Avoidance).

Hofstede (2001) argues that culture is a collection of characteristics possessed by people who have been conditioned by similar socialisation practices, educational procedures and life experiences. The anthropological view considers that culture is static and the fundamental values are inherited from generation to generation and change only slowly. The sociological view on the contrary considers that different values in society interact with changing economic and political conditions, and thus culture is believed to be dynamic and evolving by culture negotiation/formation through intercultural interactions (Brannen & Salk 2000), multiple cultures perspective (Sackmann & Phillips, 2004), and multilevel cultural dynamics (Leung et al., 2005). However, the underlying basic values are considered to remain unchanged (Cray & Mallory, 1998).

Hofstede & McCrae (2004) affirm that personality traits are biologically based dispositions and the question seems to be how personality traits (comparison of individuals - psychology) and culture (comparison of societies - anthropology) interact to shape the behaviour of individuals and social groups. They stress that culture is a collective (common to most of the people in a social group) attribute manifested in behaviour. Individuals are to societies as trees are to a forest. The metaphor flowers, bouquets and gardens was used by Hofstede (1995) in comparing studies of individuals, organisational cultures and national cultures. Cultures, as a whole, cannot be understood in terms of personality dynamics of individuals (Hofstede & McCrae, 2004), but through the context of social interaction.

Recent research indicates that communication, knowledge sharing and learning are profoundly influenced by cultural values of individual stakeholders (Hambrick et al., 1998; Hofstede, 2001; Hutchings & Michailove, 2004; Pfeffer & Sutton, 2000; Siakas & Georgiadou, 2003; 2006) and that culture creates the context for social interaction and shapes the processes by which new knowledge is created, legitimated and distributed (De Long & Fahey, 2000).

Embracing Multicultural Diverge in a Teaching and Learning Context

Different cultural contexts bring about differences in:

- Assumptions about learning and the expectations that participants have regarding learning and teaching (Siakas & Georgiadou, 2003; 2006a; Hofstede, 2001);
- The teaching model and the relationships between educator and learner (Siakas and Mitalas, 2004), the way the technology itself is experienced, the pedagogical aspect, the design of online courses;
- The way in which individuals and groups communicate and respond to their environment, and subsequently on knowledge sharing (Siakas & Georgiadou, 2006b, 2006c). The idea of sharing on-line activities, tasks and practice across cultures through computer mediated communication, is part of what can be called intercultural e-learning.

The contemporary demands on education triggered by advances in ICTs (technology and media convergence; financial and funding imperatives), globalisation (career opportunities; cultural divergence), life long learning (learners needs; stakeholders demands), as well as the Lisbon and Bologna objectives (competitiveness; quality standards), predispose a new paradigm of educational systems and pedagogic processes changing the emphasis from educator centred to learner centred learning. Laurrilard (2001) emphasise that in order to advocate a learner centred approach the learner and stakeholders (society at large) should be considered in the first place followed by present and future career opportunities. Other drivers, such as strategy, quality standards etc., should be tuned to fit the goals of the educational institutions and raise competitiveness.

To recognise learner differences and to use them as a productive resource seems to be the challenge in education today. ICT convergence (Baase, 2008) and ubiquitous learning (Cope and Kalanzis, 2008) offer a number of possibilities. Not every learner has to be on the same 'page'; they can be on different 'pages' according to their needs. Every learner can learn according to his/her life experiences and interests; every learner can be a knowledge maker and a cultural creator. Learners may also work in groups, as collaborative knowledge makers, where the strength of the knowledge of the group arises from their ability to turn the complementarities that arise from their differences into productive use. In this context, teachers will need to be engaged members of cosmopolitan learning communities and co-designers, with learners, of their learning pathways (Cope and Kalanzis, 2008). The shift in ICT capabilities towards a converged capability of sound, movies, images and communication has influenced our lives and the behaviour of both students and teachers (Baase, 2008). Participative learning, collaboration and social networks are tools of the virtual classroom. While the technology promises to reach out to the disabled learner, to the learner in a distant location and to the learner involved in other duties for self directed, self motivated and synchronous learning the gap between those who are on the "wrong" and the "right" side of the digital global divide seems to become more obvious. As technology becomes more prevalent for learning, the issue shifts from the haves and the have-nots. It needs to be mentioned that approximately one billion people worldwide have access to the Web; approximately five billion do not (Baase, 2008). Non-profit organisations and huge computer companies are spreading computer access to people in developing countries. Bringing new technology to underdeveloped and poor countries is not only a matter of resources and money to buy equipment, but also a matter of the culture and the environment. In some countries, there are whole villages without electricity. There is a need not only to provide access, but in ways appropriate for the local culture (Saleh and Georgiadou, 2008)

At a European level the policy-makers and the regulators that have awareness of cultural divergence between EU states are likely to add significant value to the target of stimulating the adoption of the EU policy regarding the Information Society. A broader perspective in order to take into account new trends is needed. Reflections regarding the Information Society adaption levels should embark upon barriers that hinder the adoption of the EU policy and the provision of pan-European online services. The cost and risks of different solutions regarding the European information society should be explored.

Hofstede (1994; 1995; 2001; Hofstede et al., 2004) provided strong evidence that national cultural differences shape organisational behaviour at a local level, and that differences in national and regional cultures affect work values. They argue that culture is a collection of characteristics possessed by people who have been conditioned by similar socialisation practices, educational procedures and life experiences. Hallett (2003) claims that the idea of culture as shared beliefs and values cannot account for the conflict that exists within organisations. This conflict is generated from both external influences on the organisation and internal subcultures that do not agree with dominant ideologies. In the current literature the main focus seems to be on organisational culture (Hatch, 1993) and the organisational cultural changes imposed by globalisation and the unprecedented development of ICTs. Changes in strategy with subsequent changes in structure and operations create new organisational cultures with different team settings (Brannen & Salk, 2000; Sackmann & Phillips, 2004). HE literature similarly recognises the existence of subgroups that may conflict with dominant ideologies, but emphasizes that the understanding of institutional culture minimizes the occurrence and consequences of cultural conflict and help foster the development of shared goals (Kuh & Whitt, 1988; Tierney, 1988) in addition to the fact that cultural awareness can help leaders initiate appropriate institutional change.

There are many examples of successful implementations of Open and Distance Learning, eLearning, resource-based learning and even simply learning through correspondence. However, despite the unprecedented proliferation of ICTs and possibly because we are still in a transition period blended learning has been recognized to provide a promising approach facilitating individuals to adapt learning to their own and needs, schedules and preferences (Matheos et. al., 2005). In cultures with deep rooted educational traditions (e.g. China and Greece) a mindset change is necessary, covering rational (facts and figures) and emotional (thoughts and feelings) components, but also the specific learning context influenced by personal background including experiences and competencies. A mindset change is a complex issue. To change mindsets in a cross-cultural context calls for flexibility in teaching and assessment methods. Blended learning is an approach that combines a multiplicity of delivery and assessment methods to suit the unique needs of the learners, the educators and the institutions. A mindset change is a complex issue. To change mindsets in a cross-cultural context calls for flexibility in teaching methods. Small-scale changes of process and procedures have proved to be the most effective way of tackling these issues (Loeve, 2007) and blended learning is an approach that combines a multiplicity of delivery and assessment methods to suit the unique needs of the learners, the educators and the institutions, by other words people and culture. Pascale et al. (1997) view organisational culture as critical to change initiatives. Initiatives aligned with the prevailing culture are far more likely to succeed than those out of alignment.

Supporters of the blended learning approach argue that it is cost-effective and improves learning both in classroom settings and in technology based learning environments (Collis, 2002), as well as enhances learning experiences, increases learning outcomes (Singh and Reed 2001; Twigg, 2000). However, as Oliver and Trigwell (2005) argue blended learning requires a shift from instructor/educator-centred to learner-centred learning. A paradigm shift embracing active learning and knowledge sharing is needed in the age of information and knowledge. Basic pedagogical principles and social contact through the Internet, have evoked collaboration and peer tutoring. Deeper learning is facilitated through the construction of new knowledge from already acquired knowledge with the inputs from tutors and peers. A social constructivist method seems to fit the net based learning environment (Ask and Haugen, 2008).

In the theoretical framework of constructivist and social constructivist learning the learners construct new ideas and concepts based upon their current and/or past knowledge (Wenmoth, 2006). The learner selects and transforms information, constructs hypotheses and makes decisions, relying on a cognitive structure to do so. Constructivist theories and methods have been further developed and adapted to different learning environments (Wenmoth, 2006). Figure 1 depicts the scope of on-line learning.

Figure 1: Scope of Online Learning Environment

Managing complexity of learning	**Emergent**	**Established**
View of Knowledge	"Knowledge as a verb"	"Knowledge as a noun"
	Network-centric	Subject divisions/Hierarchical
	Folksonomies	Taxonomies
Main ideas of knowledge and learning	Adaptive, dynamic, connected	Structured, controlled, managed
Learning intentions	Contextualised, nebulous	Clear objectives, outcomes
Expressed as...	Learning 'ecologies' (Social, connected, distributed)	Course model
Dominant technology used	Personal Learning Environment (PLE)	Learning management system (LMS)
Dominant theories of learning	Connectivism Social constructivism Constructionism	Constructivism Behaviourism Cognitivism
Pedagogical focus	Learner-centric	Institutional focus
	Learner choice/management	Teacher managed
	Activity-based, experiential	Organization of classes, courses
	Focus on participation/collaboration	Focus on coverage, content delivery
Communications model	Many to many ◄	► One to many
	Networked Facilitated	Transmissive
Technologies (for example)	ELGG *Peer to peer options, eg:*	*Hosted options, eg:* Blackboard
	Del-icio-us Colloquia	Moodle, Interact WebCT
	MySpace Groove	LAMS
	Bebo *etc.*	
Hosting	Range of hosting options – incl. server-based, hosted, (remote or local) and local PC or personal appliance based for peer to peer networks. Needs to include consideration of mobile technologies.	

Source: Wenmoth, 2006

From figure 1 we conclude that the communication model in social constructivism and constructivism is a hybrid between many-to-many (the role of teacher is played down) and one-to-many (the role of the teacher is crucial). Social constructivism is a variety of cognitive constructivism that emphasizes the collaborative nature of learning. Learning communities are created around certain Learning Management Systems in a multicultural setting. Studies have identified the need to operationalise the potential of cultural difference into the design of e-learning (Collis, 1999). Goodfellow & Hewling (2005) emphasize that there seems to be a tendency to characterise online learners through generalised cultural stereotypes as the basis for the way in which they will learn online. Other studies highlight cultural differences as a key challenge for the design of online course (in particular online communication) (Kim & Bonk, 2002). However, it is uncertain whether the diversity in cultures and mother tongues is a positive or a negative factor in the development of learning communities (Ask and Haugen, 2008). It still needs to be investigated if cultural diversity in international groups are enforcing or hampering the activity.

The NETIS Approach

The NETIS[2] project aims to a constructivist approach. The aims of the NETIS e-Learning environment are to provide context, support and motivation for both instructors and students to integrate theory and practice. This is promoted by the combination of individual and remote interactive activities. The activities are structured in order to focus student attention on learning issues, such as content-related, problem-solving, reflective and interpersonal skills. Opportunities for reflection of the everyday experiences regarding the given topics, e. g. the use of information technology, networking, e-Government, e-Learning etc. are given through a knowledge map and e-portfolio.

There are two disciplines involved, namely Social Sciences (Estonian, Hungarian and Italian partners) and Information Systems Engineering (British, Greek and Slovakian partners). The main learning material (the course book) is developed by partners from the Social Sciences. However, this is considered as richness by the Informatics partners, since the main aim of the course is to improve awareness of the role of ICTs in the Information Society. The blended learning method was chosen to facilitate flexibility and allow a student centred approach regarding the emphasis of the course. Below are the NETIS learning objectives and the learning strategy to obtain the objectives described.

NETIS Learning Objectives

- Focus on learner and learning – flexible, personal models for developing learner's capabilities and cognitive skills
- Communities of learning – supporting the identification and implementation of virtual communities, involving students with similar learning needs, within and across institutional boundaries.
- Soft skills and informal learning – supporting the learner to develop soft skills, such as interpersonal communication, team work, leadership and project management, through knowledge sharing, dynamic learning content generation, etc.

NETIS Learning strategy

- Meeting the needs of learners; high levels of interactivity between all participants.
- Developing learning material relevant and meaningful to the learner; Adjustments and adaptations between materials, learning styles and learning contexts.
- Stating learning goals; creating and using of different thinking and reasoning strategies to achieve complex learning goals;
- Expressing clear expectations on learners; creation of a model of delivery that includes thorough planning, monitoring, reviewing and evaluating of course materials and student progress.
- Promoting creative and critical thinking by engaging the learners actively in learning experiences that encourage synthesis and analysis for constructing their understanding, own meaning and knowledge.
- Connecting learning with prior knowledge and experience by linking new information with existing knowledge (previous courses, educator and student experiences) in meaningful ways.

[2] The Network for Teaching Information Society (NET-IS) project is funded by the European Commission under the Leonardo da Vinci Program. The project started on the 1st of November, 2006 and lasts for 2 consecutive years until the 31st of October, 2008 with the participation of seven prominent, Europe wide recognised organisations (universities and research institutions) from six countries.

- Encouraging social interactions, interpersonal relations and communication with peers and others
- Guiding student exercises toward fostering independent learners; communication of the purpose of each class session and learning activity; encouragement of students to think independently.
- Providing correctives and feedback on students' performance; setting appropriate and challenging standards/rates and assessing (diagnostic, process and outcome assessment) the learner, as well as the learning progress.

When the same learning material and e-learning platform is used in a multi-cultural and multi-disciplinary environment it is extremely important that the local educator act as a facilitator to accommodate local differences and takes different linguistic, cultural and social backgrounds of learners into consideration (Siakas & Georgiadou, 2006). The NETIS blended learning approach combines the e-learning platform with face-to-face contact, thus allowing emphasis on students' needs and consideration of local diversity. In addition to the learning strategies motivation strategies are particularly important when a new learning approach is introduced in order to avoid resistance and reduced learning outcome. Making learners feel acknowledged, respected and appreciated is a basic cornerstone for building and sustaining a coherent learning environment.

According to a European survey (Ehlers et. al., 2005) with 1,743 respondents the quality in e-learning is considered to be the "best learning achievements" (50 %) and "excellent performance" (19 %). The NETIS project aims to produce learning material of high quality and frequent member collaboration for knowledge sharing. However, the students' performance and achievements are within the responsibility of the members' professional activities (implicit) with respect to the interdisciplinary and intercultural characteristics of the member institutions and countries.

The NETIS approach conforms to the following actions required of the member states and the Commission (EU Council, 2006), namely to:

- Promote the European dimension of the joint development of Higher Education (HE) curricula: the members of the NETIS project jointly develop a curriculum regarding the Information Society. The interdisciplinary, intercultural online course provides a European education experience and promotes the dimension of joint development of HE curricula.
- Capitalise on the potential of the Internet, multimedia and virtual lifelong learning environments: an Open Source teaching-and-learning platform, Moodle, is used to allow asynchronous user-centred lifelong learning possibilities. The platform will be available for download, use and eventual further development after the end of the project.
- Encourage the development of high-quality digital teaching and learning materials to ensure the quality of resources available online: the digital teaching and learning materials in English, Greek and Hungarian are enriched with learning objectives, squeezes and self-assessment possibilities to motivate learners for active involvement and increase learning effectiveness
- Support the development and adaptation of innovative teaching that incorporates the use of technologies: the NETIS approach comprise blended learning by integrating different degrees of technology based learning with traditional education for facilitating political and cultural divergence as well as different learning preferences
- Take advantage of the communication potential offered by ICT to foster European awareness: Digital libraries and electronic online European information and statistics are actively used for the performance of the tasks aiming to increase awareness of European and Information Society issues.
- Support virtual forums for cooperation and exchange of information: both project members and students use virtual ICTs for cooperation and exchange of Information. In addition they are encouraged

to use social networking tools included in Wiki 2.0, such as blogs and chats, for knowledge transfer (see e.g. http://netis.edublogs.org/ and http://socializeit.gr/index.php/its-all-greek-to-me/)

- Monitor and analyse the process of integration and the use of ICT in teaching: the use of ICT in teaching is monitored partly by the Moodle teaching-and-learning environment. The results are analysed together with metric data from other sources, such as number of emails, blog-posts etc.

The NETIS course will be taught for two semesters in the academic year 2007-2008 in Estonia, Hungary, Greece, Slovakia and the UK by using different degrees of blended learning. The teaching material developed by partners of the NETIS programme is integrated on an Open Source e-learning platform (NETIS Moodle, 2007) and an actual textbook is printed in different languages. In addition to the e-learning platform, social networks, commonly called Web 2.0, are used for generating content by users (educators and students) and enhancing knowledge sharing (Siakas and Georgiadou, 2007, Kwai Fun & Wagner, 2007).

Conclusions, recommendations and further work

The degree to which the EU policy and regulation regarding the Information Society can be consistently and timely adopted in the different EU counties seems to highlight the importance of the cultural particularities and the national uptake of ICT developments. This chapter dealt with challenges and new demands on education and training related to the Lisbon and the Bologna objectives, the globalisation and the developments in Information and Communication Technologies (ICTs) and the decisive role of taking cultural divergence into consideration in education and training efforts.

Our recommendation to policy-makers, institutional strategy creators, quality assurance bodies and instructors are to carefully study the culture, the sub-cultures and the environment in which an educational strategy will be implemented. Empowerment and participation of students in the development process are decisive characteristics for success.

Further work will concentrate on experimentation with different teaching and learning approaching in diverse cultural settings.

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