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ELearning and Intercultural dimensions of learning theories and teaching models¹

Abstract

When choosing to address learning goals within an eLearning environment, authors and educators need to become aware of hidden dimensions in their pedagogical activity. Cultural embeddedness applies to learning theories as much as teaching models. Reflecting on these dimensions and taking them into account in designing learning environments should result in facilitated intercultural learning and teaching.

We need most to teach students how to make decisions under conditions of uncertainty, but this is just what we don't know how to teach.
(William Pownes, personal communication, 1972, quoted by Donald A. Schön, 1987)

Introduction

There is general agreement that intercultural competence, which has been especially developed in language training, is becoming more and more necessary for citizens today, as they encounter colleagues, clients or friends, at home or abroad, during work or leisure. This competence is based on a deep sensitive understanding of the other person and on communicative capacities. One would not expect eLearning to offer the required environment for developing such interpersonal capacities. However, it will be argued here that developing intercultural awareness in learners can be facilitated by elearning environments. Furthermore, as pedagogical practices, previously based mainly on paper technology, gradually integrate digital technology, a much more important goal can be attained with teachers: a renewed understanding of the cultural embeddedness of learning and teaching. This can lead to an urgently needed empowerment of educational actors who are confronted with specific new cultural challenges that the use of digital technology and knowledge is generating today.

1. Acquiring intercultural competence through elearning

Learners and teachers have to cope more and more with the crucial issue of cultural heterogeneity. School and university populations are increasingly multicultural, as people migrate for professional, social or political reasons. The globalisation of the economy is bringing together people of different hemispheres, cultures, civilisations, people that need to speak to each other and to understand one other. One important answer to this cultural diversity has been the generalisation of multilingualism in European schools. Training students in a second and in a third language has brought about a maturing of sociocultural educational goals, strategies and methods in language education and the development of specific elearning resources for cultural competences. It is therefore important to begin this reflection by framing the notion of students' "intercultural competence", in reference to the substantial educational work already accomplished.

All across Europe, schools and universities have been setting up new training contents and methods in order to develop in students intercultural skills and competence. *Otto Lüdemann* retraces how the intercultural dimension has been present from the very beginning in European Commission initiatives and programmes such as Erasmus (1987), Lingua (1990), Jean-Monnet Action (1990), or Socrates (1995). Research and pedagogical practices had focused on knowledge of culture and language fluency but have now come to integrate intercultural relations and communications.

Learning goals have been transformed along the way. Byram, an important actor in European language education policy, wrote in 1992, "it has become the custom to teach foreign languages in secondary schools as if pupils were to become tourists and holiday-makers in the foreign country. They have the language needed for survival in such situations and are given some 'useful' but rather superficial information about the country in question. This however has no effect on their view of their own identity and that of others; they are implicitly invited to remain firmly anchored in their own values and culture". (Byram, 1992) This remark testifies of the growing awareness that would result in the development of new learning goals in the '90s and in the pioneer work of the *Council of Europe* in developing intercultural competence within language education.

Teachers, especially those who teach second languages, had become aware of the need not only to inform on other "cultures and civilisations", but to educate in students the capacity to 'decentre' oneself from one's culture and to deal with ethnic, social and cultural differences. Some teachers were already intuitively drawing from their own personal experiences with the 'target culture' or the second language culture, experiences which they willingly shared with students, in order to provide them with an inside view. But going from teaching about cultures to developing intercultural competence was a complex task for teachers. For developing intercultural competence in students involves a shift from the information based approach to an approach based on mastering cultural analysis and cultural communication, which allow learners to interact successfully with people of other cultures and identities.

1.1 What is intercultural competence?

Intercultural competence has to do with the capacity to understand more than what the words record in spoken or written language. It has to do with the human communication process and therefore goes beyond linguistic competence. “The intercultural dimension is concerned with – helping learners to understand how intercultural interaction takes place, – how social identities are part of all interaction, – how their perceptions of other people and others people's perceptions of them influence the success of communication – how they can find out for themselves more about the people with whom they are communicating. » (Byram & alii, 2002, p.15) Teachers need therefore to help students develop “skills in understanding”, “skills of discovery and interaction” and behaviours expressing feelings, tolerance, respect, empathy and flexibility.

People have different identities through which they participate in social interactions. Some persons are much more receptive to the different behaviours that generate these interactions. Intercultural competence can therefore be understood as someone's “ability to ensure a shared understanding by people of different social identities”, and his or her “ability to interact with people as complex human beings with multiple identities and their own individuality”. (Byram & alii, 2002, p.10) It is therefore the opposite of trying to figure out cultural reactions by resorting to stereotyped information. For teachers it implies developing “learners as intercultural speakers or mediators who are able to engage with complexity and multiple identities and to avoid the stereotyping which accompanies perceiving someone through a single identity.” (Byram & alii, 2002, P. 9)

Teachers were used to ensuring students acquired a “working knowledge of the target culture”. They now need to go much further in helping students understand differences and otherness, explicit and implicit frames of reference, attitudes, beliefs and values and also students' own self-awareness, the consciousness of their own culture, and their openness to differences, tolerance and mutual respect.

1.2. Assets of elearning for intercultural education:

Not only is intercultural competence a demanding programme, but teachers are also expected to come up with innovative pedagogical methods to reach students. As experienced for several years now, digital technology can offer real advantages for the ambitious learning goals that developing intercultural competence in students implies.

Learning is a global concept that refers, “in its broad sense, to a dynamic purposeful socio-psychological process of change in individuals and collectivities.” (*Literature review and discussion*, 2006, FeConE Consortium). As compared to other types of learning, there is a specific dimension that needs to be present in all school learning experiences and that is the thinking experience, for the one type of learning that schools need to excel in is “learning how to think”. It is in that sense that school or academic learning is always ultimately knowledge-based learning. It is about learning how to think with existing infor-

mation and knowledge, learning how to think about things, about people, situations, events, nature, history, etc., in order to produce new information and now knowledge. And this is initiated by acquiring the specific language of each discipline, and the 'way of thinking' of that discipline. *Diana Laurillard* (1993) speaks of "articulated knowledge", or "second-order experience of the world" obtained "through reflection on experience".

Elearning in schools and universities is therefore knowledge-based learning integrating the use of digital technology in setting up learning environments. An elearning environment is one where the educational practices are partly or totally based on information and communication technology. There can be a combination of presential and distance learning, online and offline, solitary and group learning. But here also what is specific of academic elearning, as compared to other types of elearning is the central role of knowledge as the means for understanding in depth the significance of whatever is studied.

Providing a rich environment

One of the main difficulties of knowledge-based learning is providing the rich environment that will stimulate meaningful interaction between the information presented and the learning goals of the student. And this gap is largely filled by the enhanced learning experiences that elearning allows with multimedia presentations, graphical illustrations, live news reporting or coverage of news events, detailed photographic representations, etc. Multimedia presentations, live action and imagery provide socio-cultural contextual information, allowing learners to make relevant inferences, to cross visual and auditory information, and to construct meaningful interpretations of cultural phenomena.

Besides multimodal representations, elearning environments integrate interactivity as the main mode of action for students. These systems are based on a learning concept where the learner is active, learning being interpreted as understanding, and understanding as doing and solving problems: learning is primarily a transformation process rather than a memory process. As the learner interacts with a training program, he is more involved and more active than if he was listening to a lecture. However this interactivity must not be confounded with interaction. Interaction, which is a characteristic of human relationships, implies that when a person acts, he or she will be attentive to the response of the other person, expects the other person to do the same, and looks for the ensuing answer. This involves much more than the interactivity that machines are capable of. Still, many teachers, when resorting to an interactive approach to knowledge building, assume that the student is active and in interacting with the machine he or she will construct his or her knowledge. In language learning, the use of aural feedback can be a tremendous help in improving the mastery of speaking and listening to a language.

A further step becomes possible with elearning by creating a virtual immersion in the foreign cultural context. As stated in the Council of Europe's "Practical Introduction" for language teachers" to develop the intercultural dimension, "The issues which need to be

given priority are not the acquisition of more knowledge about a country or countries, but how to organise the classroom and classroom processes to enable learners to develop new attitudes (*savoir être*), new skills (*savoir apprendre/faire* and *savoir comprendre*) and new critical awareness (*savoir s'engager*).» (Byram & alii. 2002). Several reviews of projects, policies and frameworks focused on integrating ICT in classrooms have brought out that the rationale for using these digital environments invariably points to providing students with effective educational opportunities (Newhouse & alii., 2002). In front of identified pedagogical problems such as educating for intercultural competence, elearning environments can provide the contextual opportunities for intercultural experiences, involving risk taking, emotional reactions, spontaneous exchanges and the reflective processes for developing self-awareness and awareness of others. All these critical dimensions can be attended to with adequate resources and focused learning experiences.

2. Cultural embeddedness of elearning environments

It is not only students' interactions within conflicting cultural contexts that has to be educated. Another fundamental issue has come up with the advent of eLearning and online courses, and, generally, the use of information and communication digital technology within pedagogical practices: awareness of the cultural embeddedness of learning practices. Integrating information and communication technology was initially seen as adding on to existing practices, as having access to new resources for illustrating, as facilitating more interactive student involvement in simulation, in problem solving and in evaluation.

In designing ICT based learning environments, educational practitioners have had to consider their own understanding of "what is learning", to look into the principal theories that organize our knowledge about learning, and to reflect on the goals and methods that schools and teachers endorse. Designing elearning environments requires that educational actors clarify, rationalise and formalise their practices. In order to introduce more coherence and relevancy, implicit cultural assumptions had to be revisited, bringing about a deeper awareness of the kind of learning that schools and universities are specialised in and of the underlying choices of values and beliefs. Two different cultural dimensions are at stake here: the pedagogical culture and the values, beliefs, attitudes, theories and models involved; and the digital culture and the emerging transformations in relating to knowledge and in pedagogical modelling.

In such multicultural and multilingual societies, the implicit pedagogical assumptions of eLearning environments need to be made explicit. It is also a characteristic of expectations today that one needs to specify what will be the learning outcomes. eLearning obliges everyone to become much more aware of the different components of learning practices. In instrumenting pedagogical strategies and activities, it is necessary to be very specific on what goal one is pursuing.

2.1 Basic components of educational practices

Beyond taking into consideration the cultural differences of students that have varied national and ethnic origins, there is the growing awareness that pedagogical practices in themselves refer to an implicit set of attitudes, beliefs and values. The specific orientations that each teacher has in organizing a learning situation have up to now been left mostly in a blurred background. The underlying assumption was that each teacher would be constrained sufficiently by the curriculum, by the learning objectives and the means available so as to counterbalance his or her personal preferences, inclinations and understanding of pedagogy.

Teachers develop their own education culture, usually shared amongst colleagues within institutions and rarely questioned as such. Different values and underlying choices organise their pedagogical practices. In clarifying different choices of curriculum, learning outcomes, teaching methods, assessment procedures, and bringing them in alignment with the technological choices, educational actors find that they are bringing to light implicit cultural attitudes, beliefs and values.

Introducing pedagogical changes with IC technology can only succeed if the concerned actors have a reflective understanding of their actions, their goals and their underlying processes. “Any purposeful action is governed by theory. Everyone who teaches or professes to teach has a theory of learning“ (Bigge, 1976). Theories have a tendency to organise our actions without our knowing it. If a teacher is strongly committed to teaching, then chances are that this teacher’s activity is based on a theory of learning.

Theories and models

In pedagogical research, more knowledge has been produced about learning than about teaching. It is interesting to note that there are theories of learning, but no theories of teaching, only models. A theory explains, provides a coherent and stable organisation of the elements involved. A model is a theory oriented on a problematic issue and re-framed for solving the problem.

Theories are formulations of apparent relationships or underlying principles of certain observed phenomena that have been verified to some degree. Learning theories are based on psychological or social theories that explain the functioning of human being and human groups and institutions. For example, the classical conditioning or learning by association theory of learning is based on behaviourism, a psychological theory which states that behaviour is always a response to a stimuli coming from the environment.

Models are general hypothetical organisations or structures, often based on an analogy, used in analysing or explaining a phenomena and generally conducive to prediction or applied action. For example, teaching models are formal representations of the different teaching techniques based on a particular vision of the learner and aiming to develop specific aspects. One such model of teaching is “instructional design”, which is the sys-

tematic process of translating general principles of learning and instruction into plans for instructional materials and learning, and which relates specified events of instruction to learning processes and learning outcomes that have been set by the instructor.

What are the underlying teaching models and learning theories that form the basis of the strategies deployed to integrate ICT? As states Loveless (1995), “It is not possible to consider the use of IT in classrooms without reflecting upon one’s beliefs about learning and teaching. IT capability can be seen as having much more to do with an approach to ways of learning and working than as the development of a set of skills”. In that sense any IT training of teachers needs to be a truly professional development, that involves, beyond skills training, changes in teachers’ approaches to learning, in their attitudes, representations, values, beliefs and meta-cognitive understanding. Thus, for example, it is only when teachers have understood the importance of lifelong empowering learning strategies that they will engage students in self directed and lifelong elearning, and in self appraisal and self management.

Why is it important to become aware of the different teaching models and learning theories that are ingrained in pedagogical practices?

1. Because educational systems are extremely difficult to change. It is necessary to have a clear understanding of the premises on which are built the teaching and learning activities, if one does not want to become trapped in repetitive behaviours.
2. Because it is important to understand how learning occurs if one wants to improve or change learning. There are several prominent theories that have been the basis for the development of different approaches to important aspects of the pedagogical practices. Coherence and successful outcomes can only be achieved through awareness of the strategic choices involved.
3. Because each theory of learning leads to specific classroom practices, and because each educational actor, situated in a pedagogical field, needs especially in periods of uncertainty, innovation and change such as implied by multiculturalism and digital technology, to have a wider perspective, to see the “big picture”, in order to make the relevant and appropriate decisions.
4. Because a knowledge society cannot function adequately without a clear understanding of the different learning models that are constantly activated by the different contexts or the demands for competence.

Main learning theories or how does learning happen?

While there is agreement on a broad definition of what is learning, generally understood as the acquisition of knowledge, competences, skills and attitudes that lead to long-term change in behavioural patterns, cognitive structures, or personal identity, *how learning happens* is a controversial matter. When integrating ICT, some learning models may seem more appropriate than others and there is usually an explicit reference to some theory.

But it is only when looking at the big picture, at what is happening over a long period, that the implicit theories and models organising the concrete activity can be identified. Learning theories are embedded both within learning systems and processes and within teaching practices.

How does learning come about? Many schools of thought have developed theories of learning. As already explained, a learning theory is a coherent and systematic explanation of how learning happens, based on interrelated concepts, definitions and propositions, offering a well-substantiated explanation of some aspect of the learning process. A theory of learning will therefore need to address the following questions:

- What are the role and activities of the learner in the learning process?
- What corresponding teaching emphasis and activities does it require?
- How are the learning outcomes described?

Several classificatory schemes of learning theories have been made, that range from wide ranging outlooks, such as Greg Kearsley's Theory Into Practice (TIP) database which includes descriptions of over fifty theories relevant to human learning and instruction, to KOPER's distinction, based on corresponding approaches of Greeno, Collins & Resnick (1996), between three major streams of instructional theories, «empiricist (behaviorist), rationalist (cognitivist and constructivist) and pragmatist-socio-historic (situationalist)».

In their review of elearning theories, frameworks and models, Mayes & Freitas (2004) develop similar viewpoints with their "three clusters or broad perspectives, which make fundamentally different assumptions about what is crucial for understanding learning". They consequently distinguish between the "associationist/empiricist perspective", where learning is conceived as "an activity", the "cognitive perspective", where learning is "achieving understanding" and the "situative perspective, where learning is seen as a "social practice". These "theoretical accounts of learning" are then mapped onto "pedagogical frameworks for design", that is current elearning models such as IMS learning design, or intelligent tutoring, or CSALT networked learning models.

Our purpose is different here. The aim in uncovering the learning theories that organize the pedagogical practices is to deepen and enrich the pedagogical culture of teachers. When identifying the basic learning theories, one finds that each theory is trying to answer several requirements and therefore that different theories do not cover the same territory. Teachers need to become aware in order not only to be in a more informed position to set up learning environments but also to be able to reflect on their own beliefs and values, as they will be facing more and more learners with different pedagogical cultures, with varied understandings of what is learning, what is understanding, what are good results, etc.

Four approaches of how learning comes about are considered here. Teachers' practices usually refer to one or more of these four main understandings.

Learning as a conditioned response or the *behaviourist theory of learning* is also the theory that abides by scientific criteria to knowledge production about learning. It is based on the psychological S-R stimulus-response paradigm (behaviourism: Watson and Skinner). To learn is to integrate lasting changes in one's behaviour, in response to environmental and contextual stimuli. Learning happens when student behaviour is shaped by reacting to situations that encourage actions that gradually conform to a fixed goal. Learning outcomes are measurable changes in the overt behaviour of the individual, understood as lasting associations between a stimuli and a reaction. The instruction process is broken down into steps, with drill and practice, with exams to measure results, with the use of rewards and punishments. ICT is appreciated because it easily manages drill and practice, and allows a greater individuation of the whole process.

Learning as a processing of information, or the *computational theory of learning*, is often understood as similar to the rationalist approach or the cognitive approach (cognitivism: Ausubel, Gagné). This is the theory that is concerned with how truth or true knowledge can be acquired. Important differences in this approach depend on whether the human reason is seen as a logical engine, or super computer, or in a much broader understanding, as an enlightened capacity. To learn is to acquire information and new representations. Here the focus is on the mental processes of the learner during the learning process, either based on the information processing theory (narrow perspective) or on different philosophical or sociological perspectives (Cf. Weber's four different types of rationality). The learner processes information, linking new knowledge to old knowledge, schema and scripts. Learning is organized by a systematic analysis of the sequence of learning events, in order to make optimal use of encoding processes taking into account the limitations and specificities of the human memory.

Learning as the construction of new understanding and knowledge or the constructivist theory of learning (cognitive development paradigm: Piaget & Bruner) To learn is to integrate new cognitive schemas through assimilation and accommodation in order to construct new knowledge, that is meaningful entities. Through active problem solving and connecting facts, students construct their personal understanding. Constructivism calls for the elimination of grades and standardized testing. Instead, assessment becomes part of the learning process so that students play the larger role in appreciating and judging their own progress. For example, the "tacit" and "implicit knowledge" approach in the Tunis Preparatory Report, "Understanding Knowledge Societies" (UN, 2005), is based on a renewed version of this perspective.

Learning as a social and experiential process or the socio-cultural theory of learning. Humanistic theories of learning, very much value-driven, focussed on personal development, are the basis for a development of the learner as the actor and author of his own becoming through social interaction. Learners need to be empowered and to have control

over the learning process which takes place within a group, the teacher being more a facilitator (Rogers, 1970) of critical reflection (Schön, 1987), of conscientisation (Freire, 1976) and of transformative learning (Mezirow, 1990). It is a similar approach to learning that explores the use of collaborative software in the light of Wenger's community of practice approach.

Teaching, or an activation of learning

Teaching is a communication process aimed at activating learning. There are no specific teaching theories referred to in the pedagogical literature, as compared to learning theories, but there are many teaching models. However, underlying these models are different philosophical, sociological and psychological theories that teachers adhere to and that constitute their basic knowledge and beliefs about their professional activity.

The different theories that teachers rely on come from their personal and social background, their individual experiences, and also, as professional teacher training develops, more and more from academic sources. There are three main types of theories that can both explain and organise teachers' pedagogical practices:

- Theories concerning the nature of knowledge: *disciplinary theories* (for example, theories that account for what understanding and knowing mean in terms of each discipline) and *epistemological theories* of "what is knowledge" (for example, Berger & Luckmann, 1967; Popper, 1963)
- Theories concerning the organisation of educational actions: *didactical theories* (for example, Tochon, 1999; Chevillard, 2007), theories that account for how one brings about learning in geography (Audigier, 1999) or mathematics (see the work of the European Society for mathematics education) and *pedagogical theories* which account for how one brings about understanding in a classroom, for how one organises group work, for how one uses IC technology to bring about learning (see for example, Johnson & Johnson, 1989, for collaborative learning, or Wenger, 1998, for communities of practice).
- Theories concerning the nature of human interests and motivations: *psychological and sociological theories* (for example, theories that explain the impact on learning of interpersonal relationships, authority, organisation, human desire and human suffering, relationship to knowledge and emotions, etc). (Engvig, 2002)

Main teaching models

Teachers often have the impression that they work intuitively taking into account the immediate context – school, classroom, social, political and economic – but close study of these practices have shown that there is a definite underlying set of beliefs that explain the overall pattern of a teacher's practice. (Joyce et al., 2003) Teaching models can be grouped into four main types, each referring to one or more of the preceding theories, whether explicitly or implicitly:

- the *lecture model*, or the transmission model, involves general communication strategies, an organised or structured syllabus, varied formats (expository lecture, case based presentation, demonstrations and stories, short format, interactive lecture, question and answer) perhaps validation exercises; this model links with the cognitive theory of learning. (see, for example, Gross Davis, 1993)
- the *prescriptive or instructional design model*, is based on instructional methods and specified outcomes, principles of good course design, a structured sequence of different learning activities, and reliable and objective assessments; (see, for example, Mergel, 1998, or Koper, 2001).
- the *transactional model*, or discursive model, based on a continuing dialogue between teacher and students, with explanations, clarifications, descriptions, mappings provided by the teacher to stimulate understanding, feedback, problem solving, reflection and knowledge building; this model addresses the behaviourist approach to learning (for example, Huitt, 2003).
- the *transformative model*, based on humanist, social and clinical psychology, includes providing the means for learners to actively develop awareness of the socio-cultural reality in which they live. Through critical reflection students become aware of how they have come to perceive, understand and feel about the world as they do, and can then begin to transform these assumptions in a more inclusive, discriminating, permeable and integrative perspective” (Mezirow, 1990). Students are trained to reflect in action and on action (Schön, 1987). See also documents of the I-Curriculum EU project (2004) and those of UNESCO on *ICT in Teacher Education* (2002).

Each model leads to different expectations in terms of learning results. For example, using a transactional model, based on constructivist theory, does not allow for outcomes measurable through quiz and tests. If such assessment measures are nevertheless set up, then the teacher’s practice is in fact probably more transmissive and more prescriptive than it appears or wants to be. Integrating ICT in classrooms in itself does not change basic pedagogical reality. Often stakeholders believe that the use of the technology will bring about change. They expect teachers to spontaneously reflect on their activity with ICT and that this will bring about the desired changes, as if innovation and evolution were inherent to ICT technology. This overwhelming belief in the transformative power of technology is nowhere as important as it is in the curriculum content of training for ICT or digital competency and/or literacy.

2.2. Emerging cultural transformation with digital knowledge

Pedagogical practices have been revisited in terms of their cultural embeddedness. Two new issues still remain implicit: *the evolving status of information and knowledge* as schools and universities move from paper to digital technology; and the *change in*

the pedagogical model, changes in how we relate to knowledge and information, and how this modifies how we produce individually or within collaborative activities knowledge. Pedagogical practices, with the growing disinterest of learners for academic offers of knowledge, can address the crucial issues that the use of digital technology has brought to the forefront only by becoming more reflexive and more critically oriented.

As the economy is more and more information and knowledge-based, the role of academic institutions in generating this information and knowledge is diminishing relatively to the total mass of information and knowledge produced today. This results not only in an important shift in the role and importance of universities in the knowledge economy, but it has also brought about a significant change in the way students relate to academic information and knowledge. What Jacques Tardif had diagnosed in 1998 is turning out to be hopelessly true: “Information and communication technology invite their users – whatever their age, their experiences and the environment in which the technology is used – to spontaneously establish a utilitarian and functional relation to knowledge and information.” This is not without raising specific challenges.

A new relationship to knowledge and information

Constructivism is the recurrent reference in several frameworks. However, there is usually insufficient information to grasp what is meant by this allusion to what is a very rich and complex set of theories. Constructivism and student-centred learning are often associated with ICT. In an important literature review on the impact of ICT on learning and teaching, *Newhouse* (2002) presents constructivism as “the pedagogical philosophy to which most ‘Western’ educational leaders and researchers subscribe”. *Markauskaite* (2006) attests of this causal relationship between ICT and the shift from teaching to learning: “Access to new ICT tools and resources, such as CD-ROMs and on-line databases, modelling environments and other tools of computer-mediated learning, could change and even totally reshape present instruction from behaviourist teacher-centred teaching to constructivist student-centred learning. ».

What is the rationale for linking a constructivist approach to learning and student centred or learner centred pedagogy? It is true that ICT introduces an important change, in accordance with what young people are experiencing today: the interactive experience of information. Learners want to be active, to react, to manage the situation and not be passive receivers. They want to work with tools that allow them to process multimedia information easily and rapidly. Therefore teachers, having understood that knowledge is constructed by each one through interaction with other people and external reality, want to organise learning situations where young people will actively construct their knowledge. Digital technology is fundamentally interactive and lends itself easily to such projects.

However, there is here a confusion that would need to be clarified. It appears that two dimensions of the educational situation are woven together when constructivism is referred to in the frameworks. These two dimensions are:

- the *epistemological dimension*: what conception of knowledge does the teacher have or is working with: there are several possibilities here, ranging from objectivist knowledge to constructivist knowledge
- the *pedagogical dimension*: who is the main actor, who triggers the events: from teaching activity to learning activity

It seems that the understanding of constructivism that is referred to when researchers and teachers speak of a constructivist student-centred pedagogy, is a more behaviourist reference to active learning. Teachers are challenged by learners to organise activities that allow students to construct their knowledge. Problem-based learning is thus associated in some frameworks with constructivist pedagogy, even though this structuring of learning activities is not necessarily focused on the learner's capacities and level of competence, but on a discovery and investigating approach, and on imitation and transposition of solutions. The behaviourist dimension, getting the learner to actively participate in learning, is present, but not the constructivist dimension understood as the learning based on linking what one does with questions to the learner about his activity, his way of accomplishing the work and his awareness of what is happening for him in this learning episode. Critical reflection thus results on becoming aware of oneself as a knower, within a socio-cultural knowledge production context.

The last dimension is the new relationship to information and knowledge, which refers to a constructivist understanding of knowledge. Schools have developed in a society where knowledge was scarce and available to chosen elites. Through formal education was achieved a sharing of knowledge and information. Digital technology is rapidly transforming not only the access conditions but the very nature of knowledge. Writing has become as accessible as reading, and the challenge today is not the have the knowledge but to know how to deal with great amounts of information, data and facts. Knowledge has thus become not the acquisition of information, data, facts and concepts, but the construction of a meaningful understanding of what make sense in this world. The digital knowledge revolution is happening within an important epistemological change in the meaning of what is knowledge.

Constructivism is basically an epistemological theory, which was explicitly formulated only in the 20th century. It asserts that knowledge is not the reflection of the outside world, nor the projection on reality of the innate structures of our mind. The physical world has to be modelled, re-invented (Watzlawick), constructed (Bachelard) through interactions during which the knowing subject develops his knowing structures while producing his knowledge about the world (Piaget). Constructivism introduces a crucial

change in the nature of knowledge. It represents a major shift from the logical positivism, the scientific objectivity and the empiricism that dominated Western thought from the Renaissance to the end of the nineteenth century, in other words for all that is usually known as modernism. This modern way of thinking is still very much present in current discourse and especially in school curriculum. The role the curriculum plays in each system, in selecting prospective teachers and in evaluating students, reveals its epistemological basis.

Constructivism opposes to the objectivist view of knowledge and science, the human participation in the elaboration of knowledge and the awareness that all knowledge results from a situated processing of perceptual information. Building on Piaget's work revealing the ongoing development of intelligence through interaction with the outside world, this approach proposes that human experience involves continuous active agency, that the knowing experience is more important than the results, that knowing is inherently a socially-embedded and situated meaningful experience.

Constructivism is therefore a conception of knowledge that de-legitimizes the "objectivist" view of human knowledge. It proposes a dynamic view of knowledge and learning, and weakens the curriculum approach of a fixed body of facts, data and knowledge that each one must acquire. It is not a question of denying the importance of a shared culture, but the accent is more on the learning processes and on the development of active knowers and the curriculum becomes a means for the development of students. A constructivist approach to learning does not imply that learners have to be active so much as it sets a completely different landscape for learning.

An active approach to learning is not sufficient, if there is not, in the pedagogical environment that is set up, the elements that will trigger awareness of one's actions, of the personal maturing that is happening, and of the resulting 'distanciation' with the knowledge building activity that constructivism involves. That is why learning, even within a constructivist understanding of learning, needs to be organized by teaching. It is the teacher that will be able to select the kind of tasks that will allow the development of awareness; it is the teacher that will bring the adequate question, because he/she will know where the students are at, what are their interests, their previous knowledge, etc. All these aspects can be said to refer to Vygotsky's socio-cultural theory of learning. Only then can there be a true transformational learning.

The challenge for teachers today is to enter into a constructivist approach to learning and deploy a socio-cultural understanding of their activity. But if the information/knowledge society requires that they master these approaches, they also need to succeed in working with students who have entered into a fundamentally functional and utilitarian relation to knowledge and information. This is also one of the characteristics of an information/knowledge society. The relationship to information is changing, not only epistemologically, but also pragmatically. Students are less and less looking for a transforma-

tional experience in schools or academic settings. Scholarly knowledge does not attract or interest young people because of its great humanistic or scientific value, but more and more only if they need it for some specific pragmatic purpose. As teachers are beginning to shift towards a more meaningful and encompassing experience of learning – the constructivist epistemological approach – and are discovering that ICT greatly facilitates this approach, they are discovering that more and more young people are looking elsewhere for deep structuring and fulfilling experiences. Schools and higher education are less and less the unique places for in-depth knowledge experiences. Teachers and education stakeholders are therefore more and more challenged to provide unique self-fulfilling and enriching experiences, competing with the other media based knowledge experiences.

A change of pedagogical model

As already noted, references to a constructivist, student centred pedagogy are often based on a behaviourist conception of learning activities, where the learner has to have ongoing active involvement. When looking at what is expected of teachers with the evolving place of knowledge and schools in giving access to knowledge in today's society, it becomes obvious that they have to gradually bring about a change in the relationship to knowledge, without accepting as the only tenable one the very utilitarian approach of many students.

The new cultural awareness makes it necessary to define a direction for innovation, for improvement, for raising standards in education, in curriculum, or in teacher training. One such direction could be a change of pedagogical model. Teachers cannot improvise a new pedagogical model. Teaching students how to develop themselves and how to interact intelligently in a multicultural and multimedia world does not require the same preparation and competence as teaching students in ways to acquire existing knowledge. The change in pedagogical model is not required for training students in mastering ICT tools, but it is becoming essential in training students for the new knowledge scene that results from the generalized access to information and with the development of new knowledge production and legitimating spheres in society. A traditional view of the learning process, – learning is a tedious solitary and linear process, based on identifying deficiencies and weaknesses in students, and on information transfer and reproduction – can be easily opposed to an emerging view – learning as an active social process, based on strengthening students abilities, interests and culture, an integrative, contextualized and versatile process.

What relationship to knowledge will foster personal growth, openness to others and society and relevant competence to intervene in the problems and issues of society? This is the challenge that teachers have to meet and for which a new pedagogical model is needed. This model will obviously result from reflective practice and an awareness of what is knowledge and what is learning.

The work on intercultural competence is probably much more innovative and in some ways revolutionary than has been acknowledged. For it clearly expands the pedagogical domain beyond intellectual goals to include cultural, affective and personal development. In so doing it brings about an inevitable shift of focus from the teacher to the learner, for the learner needs to become the pilot of the cultural, affective and personal transformative actions.

This new pedagogical model is needed to attend to the transformation of learning and teaching and can become the new horizon in an information/knowledge society. What this horizon consists of depends precisely on one's epistemological understanding of what constitutes knowledge for learners today.

3. Intercultural dimensions of elearning: hidden pedagogical challenges

Hidden challenges are emerging as a result both of multiculturalism and of the development of digital information and knowledge and the propagation of their use in all segment of activities. New possibilities in accessing, copying and publishing information have brought forth differences in understanding and acceptance of long-standing evidences in the various cultures. Three critical cultural issues will be briefly outlined here: the "copy & paste" symptom, the collaborative learning incitement, and the evaluation mirage. For each of these problematic situations, practitioners seem unable to assess the newness of the stakes and continue to impose solutions, such as plagiarism detection software, that are at best irrelevant.

1. Originality and plagiarism

This first issue concerns the question of authorship, copying and plagiarism, and raises questions concerning the very understanding of scholarliness. There is today in the academic community a dominant consensus to condemn a developing practice of openly copying information found on the web, whether it be a music piece, a film or a dissertation. These practices are denounced because they deprive authors of their rights and because they result in plagiarism, which contravene moral values associated with authorship, such as integrity, authenticity and honesty.

The "booming industry" of digital plagiarism has given rise to a no less important "control industry" of plagiarism detection devices offered to teachers. Even if the educational community could succeed in detecting all plagiarism, is this the only alternative possible to the select and paste practices? Is it not time to question what are the educational goals involved in this situation? With the new services provided by digital networks, with information easily accessible, with the exponential growth of available information in quantity and quality, can the goals of creative writing that motivate essay

assignments still hold? Students find all the information they need, expressed in much better terms than they what they could produce and cannot understand that they will be better learners in handing in lower quality essays.

Is it not time to review the learning goals associated with essays, for example, and appreciate if there are not more pressing goals to be tackled, such as identifying the most relevant information, summarizing it and presenting it in different contexts. There could be as much creativity in doing this as in imposing to assemble from scratch a paper. This does not do away with training students on how to present quotes and references. Surely, knowing how to collect and synthesise information requires as much intellectual abilities as inventing text. More importantly, evaluating will become much easier because based on more specific and measurable outcomes. Even though everybody knows that evaluating a personal essay is a very qualitative process and that the marks given will vary tremendously from one corrector to the other, writing personal essays is still the most used evaluation procedure.

With IC technology, accessing large quantities of information has brought about the development of new skills for finding the correct information, sorting out amongst a vast array of heterogeneous material the information one is seeking. Almost all the writing tasks that are being asked of undergraduates have already been accomplished by someone and most probably can be found on the web. Students are therefore inclined to look for the existing answers, essays or writings that correspond to the tasks that have been given to them. Most students will explain that they think it is better to present a quality paper, even if largely inspired – and even copied- from somebody else's paper, that to hand in an approximate and poorly written version. Does not this correspond to a change in skills needed: the capacity to find the relevant information, to synthesise existing documents, to offer overviews and critical analysis, now corresponds much more to the required pertinent cognitive skills.

2. Individual work and collaborative learning

Most educational policies today recommend group work and collaborative learning. Such an approach is deemed to be in line with the practice that young people have of the web, with online social networks and connectedness being rated as very popular. However there is something awkward in this situation, as schools and university continue to evaluate individuals and not groups. Educational institutions are nowhere near developing an acceptance of team and group production as a basis for a formal and final evaluation. Individual responsibility and credit are still the norm.

Schools and universities do not seem to be disturbed by the paradox of having students learn collaboratively but evaluating them individually. In some cultures, there seems to be more coherence, collaborative learning leading to evaluations based on collaborative tasks.

3. Reflective critical thinking

With the shift from a transmission pedagogical model to a lifelong reflexive learning, reflective critical thinking becomes a crucial dimension of learning. Along with basic thinking skills, such as problem solving, making decisions, or concept building, and meta-cognitive regulating skills, the critical thinking skills are strategic skills, that actively investigate situations, problems, information and formulate hypotheses, judgements or conclusions based on an appreciation of the available information. Critical thinking is based on the same capacities as those aimed at in learning philosophy, but reflective critical thinking includes self-reflection and self-awareness of the learner

Some educational cultures place less emphasis on a critical approach than others. In Western education, developing a critical mind has been an educational goal for several decades now. The role of the press in the first half of the 20th century was crucial in insisting on the need to develop a critical approach in order to maintain one of the basic threads of a democratic society, that is freedom of speech and beliefs.

However critical thinking is not a universally approved attitude. In some cultures, being critical is equivalent to disapproving or dissenting and one does not voice publicly one's disapproval or opposition. Politeness and social etiquette requires one to be respectful of existing institutions and persons in power status. Voicing one's opinion about a well-known and respected author, for example, can be interpreted as ill-mannered, insolent or even scandalous behaviour. What could be welcomed as audacious or simply impertinent in one culture can be offensive or even illegal in another.

There is also a trend with the new ego-literature (blogs, SMS, forums) that is more favourable to expression than to critical thinking. As anyone can decide to become author on the web and as evaluation criteria need to be reviewed in a multicultural context, it is becoming very difficult to maintain qualitative criteria and critical appreciations. As the web facilitates a new experience of democratic expression, the temptation is to consider all things equal and to put aside critical thinking as the obsession of elites who need to distinguish themselves from the common man.

It is therefore necessary to develop a deep understanding of what critical thinking involves and how it has become an essential dimension in the new approach to learning, where the learner is in command of a lifelong engagement in critical reflection on one's assumptions, in freeing oneself from coercion, in negotiating one's own meanings and values, and in looking for new horizons.

Perspectives

Next year, 2008, has been proposed by the European Commission as the year of intercultural dialogue. This is but one sign of the growing awareness of the need to reflect on the multicultural dimensions of our society and work actively at overcoming the gaps and

fear that often exist between people of different cultures. This paper is an invitation to go beyond existing practices in elearning and take into account, within professional pedagogical practices, the intercultural dimensions of learning in a multicultural knowledge society. The development of intercultural competence, already present in language education, can lead the way to an enhanced experience of learning and teaching. Students and teachers can empower inasmuch as they develop a new culture of education, based on intercultural competence, critical thinking, awareness and self-regulated practices.

Notes

- 1 This is a revised version of a paper submitted to the FeConE (Framework for eContent Evaluation) EU project in May 2007. FeConE website: <http://promitheas.iacm.forth.gr/fe-cone/index.html>

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