NEW PEDAGOGICAL DIMENSIONS IN E-LEARNING

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Abstract: The task of education and training based on new information and communication technologies is to demonstrate that it has immediate results in a race with other educational systems, but to substitute part of existing structures with a new range of high performance, to meet the inherent changes that take place in culture and civilization. Or, more particularly the LLP supports the implementation of European policy in education and training as set out in the strategic framework for European cooperation in education and training ET 2020. Via the open method of coordination Member States are aiming at: improving the quality and efficiency of education and training by enabling all learners to acquire basic skills and competences needed for their employability, including through the New Skills for New Jobs Initiative, by ensuring high quality teaching and teacher training and by improving attractiveness and efficiency of all levels of education and training.

Keywords: education, high performance, change, e-learning.

Motto: “A society of education is the most valid guaranty against exclusion. The knowledge, the competences and the sills represent the main capital of the European citizens, and the e-competences are the key component in the context of the educational process during lifetime. Unfortunately, only 10% of the European population takes part in the educational process during lifetime. ICT has the potential that can allow the innovative education during lifetime for everyone. We must ensure that all these become a reality”. Education and Culture Commissar. (Jan Figel)

The task of education and training based on new informational and communication technologies is not to demonstrate that it has immediate results within a competition with other types of educational systems, but to substitute a part of the current structures with a new superior spectrum of performances to face the inherent changes which take place within the culture and civilisation.

The higher integrity of the new informational and communication technologies in the educational process needs a profound reconsideration of the contemporary didactics, because the new means of education available through these new technologies differ fundamentally from the traditional teaching and learning in the classroom. This reconsideration must firstly start from the analysis of the specific of these new technologies and of the multiple functions that they can fulfil: communication functions, demonstration, problem solving, learning, simulation, evaluation and even sensitivity and motivation growth. Otherwise these programs risk having a smaller effect than the expected one.

The use of these technologies in education determines radical changes at the level of each component of the didactic process, of teaching as well as of learning. Although the new means of education do not have an authentic pedagogic relationship and a low level of interaction, in fact they allow “a pedagogical communication that is not reduced only to the written and spoken ones, but also shall progressively include the entire register of means specific for the dynamics of the contemporary multimedia – type human communication” (Cerghit Ioan, 2004). While “these means are used in the
permanent training activity, the functions of self-education are increased, easing the effort for self-training and self-education of each individual (…) estimating that through the rational integrity of the new informational technologies in the educational process a good part of the requirements of an intensive education and an increase of the educational productivity shall be achieved.\(^2\)

We must state that according to the nature of the interaction that shall be achieved in real time (by network conferences) or in time (by e-mail) the synchronic supply systems of education and, respectively, the asynchronous supply systems shall appear. According to its terms, the interaction can be determined between the student and the teacher, the student and the content, between the students, case when the focus lends on either the role of facilitator and trainer of the teacher, or on the ability and the activism of the student through learning, or on the so-called cooperative education that finds new valences within the new means offered by the electronic bulletins, listservers and newsgroups.

The computer-assisted learning is differentiated by the traditional learning methods through a series of advantages and disadvantages offered by this technology: increased flexibility of the materials and the possibility of permanent updating with minimum costs; integrity if a variety of training means; access to a multitude of other resources through the world wide web; advantages which make a more increased motivation and a more active commitment of the student through learning possible, while the necessity of permanent familiarisation with the new facilities which technology brings and the high costs of its implementation may constitute important obstacles for the distance education.

A distance education course must face other specific problems with which the distance student confronts, such as:

- isolation status of the student (that does not allow the maintenance of a proper level of long term motivation);
- difficulties of organising the study and the time needed for it;
- finding the balance;
- lack of motivation;
- educational resources with which the student is used to;
- difficulty of developing special skills.\(^2\)

There are as well essential differences between the traditional lesson and the on-line course which are related to the specific learning environment. In order to transform the existing material within the traditional courses into an on-line course, it has to go through certain adaptations related to the general structure, its conception and language, so that it gains certain specific shapes and stylistics features.

This happens because the materials and the reference books are often designed for the face-to-face teaching. They can be completed by the information offered by the teacher from the traditional classroom. With the distance education and self-education, the lack of direct relation between the student and the teacher represents a constraint, because the student works individually. In this case, the educational material must be built on a modular structure, secondly it has to be complete, and that is to consist of all the information needed for learning: starting with the content, explanations, applications, up to the self-assessment exercises, elements which help the educational process, such as explicatory notes, term glossaries etc.

Thus, unlike the traditional teaching in the classroom, the distance education needs more time for training.

The distance education is differentiated from the traditional one, allowing a greater involvement of the student in the learning process and an increased control of it through the integration of various multimedia resources.

The new informational technologies offer numerous opportunities for the student’s learning, but a special value is given to the concept of cooperative learning. This concept finds its shape in the distance learning (through means like the World Wide Web, electronic newsletters, newsgroups) although it has been included within some theories of education. This involves an educational process which accentuates the group efforts or the cooperation between faculty and students, facilitating the

interaction and the active participation. Knowledge seen in this case as a social concept and thus the entire educational process is built based on the interaction, the assessment and the group cooperation.

All these features of the distance education environment shape a new vision on learning, different from the one where the teacher gives the information and the student assimilates, that is the Problem Orientation in learning. This essentially means that the students start learning by trying to solve their problems, using their own knowledge, becoming thus aware of their informational needs and the concrete situations and manners to use their theoretical knowledge.

This perspective on education means a compensation of some flaws in the traditional manner of training organisation through a profound structure of the student interaction with the environment and their provision of adequate strategies for the cooperative solution of problems, as well as through the learning organisation starting from an authentic problem to determine the understanding of the theoretical concepts that need to be acquired, as well as for its possible applications, so that the students could choose relevant information for their tasks. Unfortunately, we assist powerless to unpredicted metamorphoses of education, generally with a major impact on its subtypes, among which I mention:

- The shaping of a “world” in which education is closely related to the use of the computer, 776 million of young people and adults, that is 16% of the world’s population, do not have access to IT resources.
- eLearning knows a more accelerated development within the pre-graduate education and the university education. A recent study achieved by experts from the Global Industry Analysts (USA) estimates that until 2010 the eLearning market shall exceed 52.6 billion dollars at a world level.
- If up to the present the focus has been on the integration of technology in the classroom within the pre-graduate education and the university, the emphasis moved on the programs that have as objective the increase of the knowledge of beneficiaries and the teachers related to the computer usage, of eLearning platforms, and of the personalised educational software.
- For instance, in Romania, 12,000 schools benefit from the IT laboratories endowed with AeL eLearning platform and 3,700 of AeL interactive lessons and over 140,000 of teacher have taken part in trainings for the integration of technology in the educational process. The Romanian educational system has made significant steps to ensure the access to educational resources for pupils as well as for teachers, continuously taking important steps in this direction.

“At the moment, the educational solutions as well as the entire industry serving education present a very strong complexity degree. The bigger projects involve complete solutions which are the result of some partnerships between important players on this market, and SIVECO Romania is already an internationally well-known name providing components and even integrated educational solutions in Europe, Asia and Africa”, (Stefan Morcov, Vice President eLearning, SIVECO Romania).

Why this development? The answer is given by the society towards which we head over. The Knowledge Society is used nowadays all over the world, being an abbreviation of the term Knowledge-based society. The knowledge society represents more than the informational society, in fact including it, and it is not a prediction for the future, but a state of facts of the present, leaving to everyone’s choice how fast they will know to become a part of it, and not only as an external requirement, but also as an individual need for harmonisation. Knowledge is information with meaning and information which acts. That is why, the knowledge society is not possible unless it is based on the informational society and cannot be separated from it.

The advance towards the informational society, based on knowledge, is globally considered as an evolution in order to ensure the sustainable development in the context of the “new economy”, mainly based on the intellectual-intensive activities, as well as to achieve an advance social and human society.

The informational society based on knowledge means more than the technology progress and the informatics and communication applications, integrating the following dimensions:

- **social** (with an impact on the health care, solidarity and social protection, work and work market, education and continuous training etc.);
- **ambient** (with an impact on the use of resource and on the environment protection);
• **cultural** (with an impact on the preservation and the development of the national and international cultural heritage, the promotion of cultural pluralism etc.);
• **economic** (with the development of new paradigms of digital economy and of the new innovation, entrepreneurial and managerial culture, citizen and consumer’s education knowledge-based economy (Figure 1)).

![Diagram](image)

**Figure 1.** The dimensions of informational society

Pro and against informational – knowledge? There are supporters for one and the other, as well as the choir of those who proclaim a knowledge society. Thus, a vector of the knowledge society is an instrument which transforms the informational society into a knowledge society. Two large classes of vectors of knowledge society have been defined: technological vectors and functional vectors.

The main technologic vectors of the knowledge society are: the Internet, the technology of digital books, the intelligent agency (artificial intelligence systems, used for data mining and even knowledge discovery), the intelligent environment for man’s activity and life, etc.

The **functional vectors of the knowledge** society are:
- The knowledge management for companies, organisations, institutions, local and national administrations.
- The management of the moral use of knowledge at a global level.
- The biological and genomic knowledge.
- The health care system at the social and individual levels.
- The protection of the environment and the assurance of the sustainable society through a specific knowledge management.
- The profound knowledge about experience.
- The generation of new technological knowledge.
- The development of a new knowledge and innovation culture.
- An educational system based on methods of the information and knowledge societies (e-learning).

The number of the functional vectors shall increase due to the fact that more and more domains of activity shall be more and more dependent on knowledge.
The informational society is characterised by the explosive increase of available digital information through the means of informational and communication technology products. This means more efficient, more transparent and quicker services for governments and administrations that are closer to the citizen’s needs and less costly. The access of the citizens to information is a requirement of the Romanian society development within the context of globalisation and the internationalisation of the processes and the contemporary phenomena.

That is why, an existing inseparable binomial between knowledge and information means:

- An extension and a profound scientific knowledge and the profound knowledge of the truth about existence.
- The knowledge use and management existing under the form of technological and organisational knowledge.
- The production of new technological knowledge through innovation.
- A new dissemination of knowledge by all the citizens though new means, using especially the Internet and the electronic book and the use of the learning methods through electronic procedures (e-learning).
- The knowledge society represents a new economy in which the innovation process (the ability to assimilate and convert the new knowledge to create new services and products) becomes determinant (the new economy is the economy of the informational and knowledge society).
- The knowledge society is fundamentally necessary in order to ensure a sustainable society from an ecological point of view, she has a global character and it is a factor of globalisation.
- The knowledge society shall represent a new stage in culture; the emphasis shall be on the culture of knowledge which involves all the knowledge forms, including the artistic, literary knowledge.

Thus the field shall be prepared for what shall be called the society of conscience, truth, morality and spirit. P Drucker: what we understand now through knowledge is “actual information in action, information directed towards the results”. The passing from the knowledge as an assembly of known facts and data to the knowledge as an assembly of competences (“to know how to do/to act”) determines a move of focus in education, from the “ex-cathedra” exposure to the learning from experience/through practice, from the transmission and learning by heart the information (informing) to the shaping of abilities, capacities and competences.

With the certainty that the informational and communication technologies shall become universally useful tools, a new manner of thinking and a new behaviour need to be developed for this purpose that will allow the teachers to face any new requirement. Each teacher shall have to gain a basic knowledge of TIC field. The task of education and training based on the new informational and communication technologies is not to demonstrate that it has instant results in a competition with other types of educational systems, but to substitute a part of the current structures with a new superior performance spectrum, to face the inherent changes which take place in culture and civilisation. The education is the movement from the dark to the light, Allan Bloom.

An eLearning system (of distance education or virtual education) consists of a planned experience of teaching-learning, organised by an institution which provides through the media the materials in a sequential and logical order to be assimilated by the students in a certain manner, without the constraint of presence or synchronicity. The mediation is achieved by various manners, from the material on disks or CDs (by mail) to Internet transmitting technologies. Taking into account the development of the community and in order to fully take part in the economic knowledge in which TIC shall not be essential only for learning and the workplace, but also for the free activity field growth, the individuals need the following:

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4 http://autori.citatepedia.ro/de.php?a=Allan+Bloom
The informational and communication technologies have to be more accessible to young people than ever, especially at home, where the access to the computer and the Internet continues to grow. In a special manner, other technologies with educational potential (like the interactive digital television or the more and more sophisticated tools for games) become a common thing in the life of young people.

TIC is more and more important for the elementary school, for the pupils whose studies may include vocational elements and for the pupils with special needs or medical disability, impeding them to attend the courses of a regular class.

Indeed, the recognition by the schools of the qualities and knowledge acquired outside the classroom shall be an important factor in ensuring the fact that the pupils shall be motivated to learn. For instance, a rich and intense experience of home technology is expected to lead many pupils to schools with a great variety of TIC qualities. To prevent the frustration of such pupils, these abilities have to be acknowledged and disclosed in different study programs.

The current and perspective requirements of the computerised society, “can be grouped around six great nuclei”:

- “seeking a veritable equality of the chances”;
- ensuring a basic education, a common body for the genera culture information, as a social offer designed to the entire population up to the age of 16;
- transmitting the knowledge and the respect for national and international cultural and historical heritage;
- “the preparation of the child for all the aspects of the adult existence”, in order to adapt “to a world gaining through complexity, but also incertitude”;
- “the motivation of the pupils to continue learning under the conditions of a word in constant change”, revaluing the existing continuous training possibilities “beyond the school obligations”;
- supporting the interest for school from the future’s perspective, but also from the present’s perspective.

For Romania, the achievement of an informational society becomes essential, but under the current conditions it must unfold together with the first objectives of the knowledge society. It is wrong to say: first the informational society and then the knowledge society. We should not punish ourselves to stay behind. No: first the informational society and only after that came the knowledge society. The educational and training offers have become segmented and diversified, in agreement with the various requirements of the consumers who pay for the educational modules adjusted for their needs. The distance education is only the expression of these new orientations towards the consumer of various training institutions. The accumulation of credits and the transfer, the segmentation of the courses are parts of the same structural transformation of the educational system.

An excellent definition with operational value is given by the Council for Distance Education and Training: “The distance education means the registrations and the study within a training institution, which ensures the didactical materials prepared in a sequential and logical order for the students to study on their own. At the end of each stage, the student sends the product of his/her work to be corrected, classification and tutorial guidance on the study theme problems by qualified instructors by fax or e-mail. The corrected assignments are sent back, this exchange ensuring a personalised student – teacher relationship” (the Council for Distance Education and Training – http://www.detc.org/).

Within this uncertain world scenery, where the educational values are misunderstood by unskilled people, we mention a remarkable event: Learn--World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education, international conference organised by Association for the Advancement of Computing in Education (AACE and cosponsored by International Journal on E-Learning, multidisciplinary event, an international forum to exchange the necessary information on E-learning.


5 http://www.aace.org/conf/elearn/call.htm
The benefits of such an event can be schematically presented as follows:

![Diagram of education, training, information, and technology](image)

**Figure 2. The Benefits of E-learning**

Benefits of E-learning are tremendous for today’s people. Distant cyber learning or e-Learning allows you to work at any place with an internet connection, at your own pace. It is a highly flexible and convenient method of learning. Here you will give to your students the flexibility without being bugged down by any others’ extra fees such as parking, etc. As e-classes are asynchronous, learners can study according to their daily commitments.

**Advancement of Computing in Education Association for advancement of Computing in Education.**

**CONCLUSIONS**

The distance education may face another major problem of the contemporary society, which is the increased need for education which is felt through the “flourishing” of the private education. Moreover, through the advantages that it offers, the distance education may decisively help Romania in its international affirmation because according to their destiny “the nations of the Third Wave sell the world information and innovations, management, higher and popular culture, advanced technologies, software, education, training, medical assistance and other services” (Alvin Toffler). The American futurologist, Alvin Toffler, has recently launched a series of predictions which humanity shall face during the following decades: the high speed internet shall become a rule and the videoconferences shall become so ordinary that they shall allow the clerks not to go to the office.

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7 Alvin Toffler, born in 1928, is one of the most influential voices from the business and intellectual fields. Together with his first work, “the Future’s shock”, Toffler created a new subject, the futurology, based on the study of change and its impact on the business and culture environment. Due to Toffler, the futurology is considered at the moment the science that defines the forces and the tendencies shaping the future in the current economy, based on information. Many of his predictions, referring to the speed of information transmission, the acceptance of the homosexual marriages and the acceleration of the production of ecologic catastrophes, have finally come true in the following years. [http://www.hotnews.ro/stiri-international-7946697-predictiile-lui-alvin-toffler-pentru-urrnatorii-40-ani-femeile-vor-avea-putere-cizie-fara-precedent-omenirea-intre-era-petabyte-ului-sua-vor-depinde-china.htm](http://www.hotnews.ro/stiri-international-7946697-predictiile-lui-alvin-toffler-pentru-urrnatorii-40-ani-femeile-vor-avea-putere-cizie-fara-precedent-omenirea-intre-era-petabyte-ului-sua-vor-depinde-china.htm)
and work from any part of the world. The speed with which the information is transmitted shall
determine humanity to enter the “petabyte” era, a higher measuring, storage and with a superior
informational power than the gigabyte. This book separates the civilisation only in three phases – the
agricultural phase of the First Wave, the industrial phase of the Second Wave, the central place being
filled by the contemporary humanity, at the dawn of a new civilisation, usually personified by Toffler
– the civilisation of the Third Wave.

The term “wave” is used here with its metaphorical meaning, referring to the social impact of
some “torrents” of change which disturb our lives, these wave breakings leading to the disappearance
of the industrial civilisation and the appearance of the informational civilisation.

This new civilisation is so revolutionary – says Toffler – that it defies the old manners of
thinking, the old formulas, theories and ideologies, because they do not correspond to the realities.
“We cannot squeeze the tomorrow’s embryonic world into yesterday’s tranquil spaces. Nor the
attitudes or the conventional states of mind are suitable”. This is the great challenge of Alvin Toffler…
to which we fit because of our incapacity, negligence, sometimes because of the ignorance or the
renouncement.!

But someone still cares: The Informational Educational System - SEI - obtained “Best ICT
Accomplishments 2010” within the Diskobolos Gala from Serbia, within the Education category. The
DISKOBOLOS competition promotes the best solutions of application of informational technology in
the South East of Europe. The edition’s jury from 2010, formed of 29 experts coming from Serbia,
Croatia, Hungary, Bulgaria, Bosnia and Herzegovina, Macedonia, Slovenia and Belgium, have
appreciated the Informational Educational System as being one of the best IT systems dedicated to
education.

Moreover, it is the second year in a row when the eLearning solutions developed by SIVECO
Romania are found on the winners’ list of this regional competition.

SEI is a complex program initiated by the Ministry of Education, Research, Youth and Sport,
whose basic objective is to support the teaching-learning process in the pre-graduate education, using
the latest technologies. The program has been implemented by a public-private partnership. The main
companies involved in the SEI implementation are SIVECO Romania, HP and IBM. When is it
scheduled a wished extension of the preoccupation of these companies towards the university
education?

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