

THE ADVANTAGE OF THE NEW TECHNOLOGIES IN LEARNING

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Abstract: - There are a lot of learning methods. As a general rule, the youth and especially the students see the advantages of the new technologies. We consider that the system of teaching must be redefined and oriented to allow a broader system of testing. The paper speaks also about the permanent learning and auto-education. In order to use the modern pieces of information, we have to be able to use the efficient ways of working with them. All these modern learning technologies can be proper used for the open distance learning, too.

Key-words: - learning, technology, ITC technologies, education

1. Introduction

In the new digital era, the teaching process is undertaking several important changes which have come to optimize it. The integration of the new technologies within the teaching process hints at promoting this century's requirements: achieving communication skills, developing creativity and stimulating intellectual curiosity, critical and systematic thinking, efficient management of information and media abilities, improving the capacity of interaction, identifying, composing and solving problems, increasing social responsibilities and the capacity of self-education and self-improvement.

We are all familiarized with a permanent need to discover ways of achieving progress at all the levels of our existence. As expected, evolution is based on an amount of knowledge that one should assimilate during school years, no matter the area of activity. Thus, in time, there has been noticed a process of change and optimization regarding the ways of interaction between students and teachers in order to study thoroughly and better assimilate the new information. There has been developed a new trend – using the new modern

technical means of communication and information – so that the educational process may be adapted to the latest social requirements.

The Romanian system of learning suffers different changes trying to harmonize with different knowledge and development stages of education, by implementing the main European politics as concern the European Area of the University Learning, e-Learning and permanent education. The process at Sorbonne – Bologna detailed the new characteristics of the university European learning and research space, emphasizing the necessity of students', teachers' and researches' mobility, transparency and attraction.

Giving into account the directions of action, the social and economic context, we can say that a fundamental role belongs to the development in the field of information technology and communication. We want to mention some of the revolutionary technologies which give a new perspective to the didactic process: teaching, learning and assessing.

Most schools are equipped with a significant number of computers that can be connected to the Internet, video projectors, CD and DVD players, all these instruments playing an important role in the facilitation of the

educational process. The importance they have gained is indisputable if we take into account the chances they offer us when talking about scientific improvement. As opposed to the old means of teaching and learning, which were mostly based on the simple use of notebooks, textbooks, plates, photos and all sorts of albums – but which imposed direct participation and only in a confined circle, the new technological means bring something really extraordinary. Hard to believe as it may seem if we looked at this from the old educational agents' perspective, these instruments enlarge the informational horizon by a simple press on a button. Besides direct communication, the one that is developed within a confined physical environment, the new technical means also facilitate another type of communication – long distance communication. Thus, through special programs, students and teachers can cooperate with people from both our country and other states. This is a sure innovation from other perspectives as well: while surfing on the Internet, one can visit various sites, blogs and educational programs of general interest.

2. E-learning

The role that communication and interaction plays in the learning process is a critical success factor in contemporary educational paradigms. E-Learning encompasses traditional and modern methods and techniques and the use of ICT technologies (multimedia processing and asynchronous or synchronous communication) leading the subject using it to obtain experience in understanding and mastery knowledge and skills in a specific domain. In essence, e-Learning provides convenient and efficient access to the latest information and knowledge, new and effective methods of teaching, learning and knowledge assessment, training and permanent formation. In this respect, e-Learning is an alternative to the permanent education in the information society of today or tomorrow.

Particularities of e-learning technologies bring new dimensions in education and that may be complementary or alternative methods to Romanian traditional higher education system. These features offer the possibility of online education organization on topics or themes, while education is traditionally organized by group / age classes. Teaching-learning-examination acquires new dimensions and features by using e-learning technologies. The Romanian higher education system is directly involved in building the information society. An information society is born into an environment where the majority of its members have access to ICT technologies and information technologies are commonly used for both training and professional development and personal activities on solving economic and social problems. The solution is

to better integrate design skills through well-chosen information systems with management skills in the production process. This is done by weaving a better organization with modern technology, i.e. technology to represent the support for a better organization.

The advances informational technologies contributed to the motivational increase towards the study of some disciplines, which have nothing in common with informatics, because they facilitate learning, due to the fact that the individual particularities of the student are taken into account, also his/ her capacities and preferences, assuring the existence of feedback between the student and program, increasing the efficiency of the learning process. Thus, the informational technologies are used more frequently in the diversity of the human activities' spheres: medicine, finances, mass-media, in education and science.

The stages in development e-learning system are:

1. Analysis needs: The identification of target group, analysis needs of training, solutions for online education, comparative analyses.
2. Design and projection instruction: specific training models, type of contents, learning styles, the objective settlement, standards of quality.
3. Development e-learning system: the settlement of content and its structure, visual design, demonstrations, simulations, laboratories, tests, support materials, specific methods of training, interaction methods (synchronous: chat, asynchronous conferences: discussions forum, e-mail).
4. Implementation of system requires: Analysis of context, the settlement responsibilities, the check of contents, the activities program, the evaluation of performances, barriers in implementation.
5. Management of e-learning systems: necessity, marks management of education to distance programs.
6. Evaluation e-learning programs which will contains: comparisons between evaluation of e-learning programs and classic variant of evaluation, strategies of evaluation, the material evaluation of courses, self evaluation.

2.1. Advantages of e-Learning

- ✓ Class work can be scheduled around personal and professional work
- ✓ Reduces travel cost and time to and from school
- ✓ Learners may have the option to select learning materials that meets their level of knowledge and interest

- ✓ Learners can study wherever they have access to a computer and Internet
- ✓ Self-paced learning modules allow learners to work at their own pace
- ✓ Flexibility to join discussions in the bulletin board threaded discussion areas at any hour, or visit with classmates and instructors remotely in chat rooms
- ✓ Different learning styles are addressed and facilitation of learning occurs through varied activities
- ✓ Development of computer and Internet skills that are transferable to other facets of learner's lives
- ✓ Successfully completing online or computer-based courses builds self-knowledge and self-confidence and encourages students to take responsibility for their learning.

2.2. Disadvantages of e-Learning

- ✓ Unmotivated learners or those with poor study habits may fall behind
- ✓ Lack of familiar structure and routine may take getting used to
- ✓ Students may feel isolated or miss social interaction
- ✓ Instructor may not always be available on demand
- ✓ Slow or unreliable Internet connections can be frustrating
- ✓ Managing learning software can involve a learning curve
- ✓ Some courses such as traditional hands-on courses can be difficult to simulate
- ✓ Knowing e-learning advantages and disadvantages helps with learning software selection as well as online distance learning programs structure and selection. It is important to know the merits and demerits of e-learning to make a decision..

3. Advantages and Disadvantages of Technology in Education

Advantages and Disadvantages-Human progress has been achieved in the field of Information and Communication Technology (ICT). it will enable people to progress their works and tasks that should be done. However, all the progress that has been achieved not only brings advantages but also disadvantages to humans.

Advantage: Potential

The technology available today has made a wealth of knowledge available to students, which offers great potential for the speed and style of learning. Information is presented in so many ways that any type

learner, whether gifted or disabled, can find and use the necessary material. This fact relates not only to the Internet, but to all the many technological improvements in learning, from smart boards to handheld dictionaries.

Disadvantage: Loss of Skills

With this increased access to knowledge also comes a probable loss of communication skills and interactive abilities between students and teacher, and students to peers. These skills are not as necessary in a classroom of computers, where individuality is a component of learning and is encouraged. Aside from learning, conflict resolution and socialization used to be two prominent reasons children came to school. The emphasis now has shifted away from these areas.

Advantage: Access to all

Education is no longer the elitist privilege it once was. The information on the Internet is there for all who have access, without discrimination. People of all social strata are able to use technological advances, which is a fairly new academic development in Romania.

Disadvantage: Poor remain poor

While general access is not denied, some children may not be exposed to computers and other technology because of socio-economic status. A child may live in a home without a computer, and chances are he will attend a poor school district with limited numbers of computers available. A student may get to use a computer for a short time, or only as a once-a-week activity instead of a regular class period. This puts these children at a disadvantage in learning technological functions. Poor districts are also most likely not to be the recipients of other technological modes of learning.

Advantages vs. Disadvantages

The computer age is here; this cannot be debated. Is it better for children to have access to computers with all their data at the loss of interpersonal skills? Is it acceptable that a student can talk to someone halfway around the world via instant messaging but not be able to get along with the student sitting next to her in a classroom? Technology can enhance traditional methods of learning but cannot replace the human touch.

4. The Mobile Phone

Taking into account the statistics data which say that “daily 1,2 million new mobile telephony connections are made in the world”, that “the global cover for the mobile telephony webs exceeds 80% of population” and that “the number of mobile phone users is over 2,7 billion on the whole”, we consider that the students and the pupils have free access to the mobile telephony and can obtain benefits of it. The students are encouraged

to communicate, to be informed, gain new items of knowledge. The mobile phones offer the possibility to send and to receive a SMS; and migrating toward the smart phone and even the iPod, the students can inform themselves and have also the chance to send each other digital examples in every field of their activity or interest. The iPhone is defined by Apple Corporation as being “iPod, mobile phone and online communication device, all in one”. Being equipped with an operating system, without a keyboard, with a display of 3,5 inch, sensible of touch, with a resolution of 320/480 pixels, at 160 pixels per inch, having 115 x 61 x 116 millimeters, a weight of 135grams, without an aerial and with a memory of 4 or 8 GB, this piece of jewel can be used to rule different applications, photographs, music and video clips. It is easy to be carried out and can be used intuitively, without having too many buttons. It may be caught in jest as a modern and attractive method of presenting the knowledge and the assessing methods. Having also the possibilities to be connected through e-mail to wireless data, with Bluetooth 2.0/EDR capacities and in the near future being connected to 3G wireless, the iPhone can become a modern and pleasant learning device; it can offer to the person eager to learn a virtual place for learning. We also have to consider that in future these devices can be connected to specialized platforms, such as Blackboard. They offer the possibility to run through practical examples or studies while on the way to school or even in a break. Out of the advantages of WAP usages and Internet Mobile, we mention: - to place the contact information; - to describe the carried out services or the contractor’s offer; - to publish the price list; - to bring up-to-date the clients data bases; - the clients’ access into the personal zone, by personal registering in the data basis. Mobility is the key concept of the modern society and the Internet is the most valuable source of information at present. We must use it whenever and wherever. Mobile solutions are: mobile phones, PDA phones, PDAs. The advantages of using the mobile technologies are: - the information is available to the customer any time, if he owns a mobile phone with the technical required characteristics; - the fitting of the seller’s and customer’s means of communication; - the information published on WAP site, due to its dynamic changes, can be used both in publicity and for client’s informing; - WAP sites clients decide by themselves what to do and what to order, being under pressure of nobody.

5. iPod

The iPods devices are already known for their exceptional characteristics they possess: small dimensions 40 x 93 x 88 mm, stock space from 8GB to 80 GB, FM tuner, high fidelity sound quality. We

consider it is able to reproduce courses supports from a computer through USB or Fire Wire. “ The general integration of the iPod and other products in its family is a major tendency. There are more and more models of iPod boxes (...), the audio car systems have an iPod connector. It is said that this device realized a revolution within the audio digital area and not only, due to its technical and ergonomic possibilities” Hardly can one imagine a few years ago that the Internet and the computer will invade the classroom or that masters’ degrees can be obtained by simply working to a computer. Step by step, these facts penetrated into the Romanian system of learning, too. The things will evaluate. Towards, what? The formal traditional education implies a direct contact between students and teachers. This has unquestionable advantages, but there are also, perfectible aspects. If a student could not participate to a course, it was difficult for him to recover the lost subject. These drawbacks led to the d-Learning emergence and further on to e-Learning. Now, the most Romanian universities have courses and master’s degrees on line, and so do the most prestigious European universities. A new step will be done. The scientists speak already about m-Learning. But what is, in fact m-Learning? One definition of mobile learning is: Learning that happens across locations, or that takes advantage of learning opportunities offered by portable technologies. In short, m-Learning represents an educational offer for those students which are on move. They get access to this offer through mobile and portable telephony. There will be not need, in the near future, of physical connections to webs, the eager can learn wherever they are. The most personal technologies that can support mobile learning include: Content Point, for creation of mobile learning courses, Personal Digital Assistant, in the classroom and outdoors, Tablet PC UMPC mobile phone, camera phone and Smart Phone, Learning Mobile Author, for authoring and publishing WAP, J2ME and Smart Phone, Personal audio player, for listening to audio recordings of lectures, Handheld game console, modern gaming consoles such as Sony PSP or Nintendo DS/Wii, 3GP for comprehension and delivery method of audiovisual content associated with Mobile Learning. This will be possible using different mobile approaches, as PADs (Personal Digital Assistant), Notebook computers, Smart phones or Tablet PCs. There are several types of communicational technologies used for mobile equipments: GSM, WAP, GPRS, Bluetooth, WiFi. Global System for Mobile Communications (GSM) is one of the most used and performed digital cellular systems. GSM offers voice call, data at high speed, SMS capacities, voice quality and the most important, a sure communication. Wireless Application Protocol (WAP) is a protocol for wireless communications.

WAP facilitates the creation of advanced services for Internet communication and accessing, with a mobile phone. General Packet Radio Service (GPRS) is four fold speedy than GSM systems. One can access the Internet with GPRS. Bluetooth is a radio technology which allows the signal transmission between the telephones, computers and other devices, at short distances. There are challenges, too. The connecting is one of them: not all the users of a mobile phone are connected to the Internet through a mobile phone. Above this, the hardware and software characteristics of a phone restrict the possible materials to be seen. The screens of the mobile phones and PDAs are very small, making heavier the navigation on the Internet pages. The capacity of such an appliance is, also, too small.

6. Future of Learning Technology

So what can we expect in the next 5 Years? I think a lot more than what we've seen in the last 5 years or 10. Here's what I think will happen:

Mobiles will become the platform of choice for workplace learning delivery (or learning/knowledge management system access). Learners would be able to access content nuggets (videos, documents, or mini courses) from corporate information systems just when they need them. They will collaborate with colleagues and even contribute their own content using mobiles devices.

Performance Support will increase many-fold and we will see a lot of training take the shape of performance support. Mobile devices will again be the driver for this change as learners start accessing learning content just when they need it. Augmented Reality would also play an important role in sophisticated advanced performance support systems. Imagine walking into a manufacturing unit with a local layer that tells you about the location of each equipment and makes available all the related documents on the click of a button.

Tablets as support devices. Even though the iPad disappoints in its current version, I am sure this will change with future versions of iPad itself and various other tablets. Personally, I am excited about RIM's 'BlackPad'. Tablets have larger screens and are uniquely positioned as field staff's support device for trouble shooting problems by referring to product manuals and operational procedures.

The Learning Management System will evolve to support Formal + Informal + Social + Non-Formal learning components. With this we will see a big shift in the way we see assessments. The ability to measure informal learning may be done through the system itself, and constant tracking of some metrics will help learning designers monitor the 'learning/performance health' of the system and its users. Learning designers

can then design appropriate intervention within this framework to align with learning needs and business goals.

Games (and simulations) will become integral part of workplace learning. Overall the culture of gaming is becoming pervasive and the cost of game development is decreasing. Both these trends are increasing the acceptance of games for workplace learning, an area where cost of development and delivery have always been a concern. As the focus of learning departments change to being facilitators rather than providers of training, engaging solutions like games will become crucial.

Birth of new Authoring Tools. We will also see new authoring tools which allow designers to make application scenarios easily and quickly. Tools like thinking worlds are great for quickly creating 3D based decision simulations (or even simple 3D games). Dr. Michael Allen (creator of Authorware) is working on a new tool called Zebra that would make engaging eLearning creation easy with drag and drop objects.

Emergence of Personal Learning Agents. As the semantic web finally starts to form and common ontologies for various types learning content are developed, intelligent personal learning software agents will emerge as learning content mediators. Having a software agent that runs on a personal computing device such as a mobile phone or tablet and constantly monitors content streams on the internet to provide up-to-date information based on personal preferences, workplace conditions, or for the task at hand will make a good performance support and learning assistance system.

7. Conclusion

The transformation of knowledge in an essential element of social activities, its multiple functions and economic roles – a quasi-universal raw material, a capital and essential way of work with the tendency of having a prevailing role in firms and product – is normally reflected in the permanent attempt to intensify the processes of obtaining them. Maybe the most conclusive expression of this tendency is represented, in the last decades, by the permanent lifelong learning outline or by the whole period of life as an essential component of realizing a favorable environment for the economy based on knowledge.

In this context, e-Learning is having a substantial impact on personal development and citizenship, and it can do even better, provided that the human factor is not neglected within e-Learning, since this is a necessary (although not sufficient) condition to achieve enriching e-Learning experiences.

This means concentrating investment, research and practices on two priority areas: the personalization of e-Learning solutions, encouraging such developments

as the bottom up production of content, the capacity of e-Learning to fit many different learning styles and the emergence of technologies that increase the flexibility in fruition, and the "humanization" of e-Learning, embodied by such developments as the diffusion of game-based elements, new possibilities for learners' interaction and empowerment, the community building aspect of e-Learning.

In Romania, as for evolution of e-learning, the prospects are good but can offering a really virtual learning environment, completely and interactive, is necessary to make a serious investment in virtual platform. The costs for Web systems and software are big, and the investment is retrieved very difficult. Because the development costs recover later in paid price by student, the online modules will become more expensive than classic training. In Romania, e-learning for companies is a market in forming. In future, the utilization of e-learning solutions will become a compulsory development component of our society.

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