

## E-Learning – Advantages, Good Practice and Innovative Experience in the College of Telecommunications and Post - Sofia

Anna Otsetova, Ivan Kurtev

**Abstract:** *The purpose of this paper is to put on drive the main advantages of e-Learning. E-Learning is a training strategy, using a wide range of technologies, tools and systems supporting the increasing knowledge and improving skills in time and context defined by the individual student. Recently it appears the only possible way to keep up with the high demands of the dynamically changing environment. Offering an electronic form of education combined with traditional teaching methods is becoming one of the main competitive advantages of higher educational institutions.*

**Key words:** *e-Learning, Information and Communication Technologies, Higher Education.*

### INTRODUCTION

The new global knowledge economy is based on the creation, dissemination and exploitation of data, information and knowledge. This is one of the dominant features of the twenty-first century. The extended use of the potential offered by information and communication technologies (ICT) has enabled changes in the way people live, work, interact and acquire knowledge. Successful education and training in our knowledge society depend on the confident, competent and innovative use of ICT [8].

E-Learning can be defined as learning activities facilitated and supported through the use of ICT. Thus, e-Learning involves the use of a computer or electronic device to provide training, educational or learning materials [6]. The goal of e-Learning is to effect the construction of knowledge with reference to individual experience, practice and knowledge of the learner. E-Learning is a way of teaching applicable to all forms of higher education. Considering the ubiquity of e-Learning, and the enormous opportunities and risk that it presents for higher education, we need more than a fragment approach to study and understand this phenomenon.

Electronic communications and digital networks are transforming the way we work and are reshaping personal communication and entertainment. This transformation has had an enormous effect on the need and opportunity to learn. E-Learning is not simply another technology e-Learning presents a very different category and mode of communication. Since communication is at the heart of all forms of educational interaction, it is likely that its impact on education systems and individual teachers and learners will be significant. E-Learning will inevitably transform all forms of education and learning in the twenty-first century [3].

At the core of the e-Learning transformation is the Internet. E-Learning is an open system and with the power of the Internet the teaching and learning transformation is exposed to immeasurable amounts of information. The goal of the quality e-Learning is to blend diversity and cohesiveness into a dynamic and intellectually challenging environment. To realize the potential of e-Learning as an open but cohesive system, it is essential that we rethink our pedagogy.

Education is about ideas not facts. Moreover, students in higher education are not receiving the educational experiences they need to develop the critical and self-directed higher educational skills required for lifelong learning [3].

Institutions of higher education have begun to appreciate that to be effective in the new global knowledge-based economy requires new ideas and new approaches.

The technological developments force educators to rethink not only how learning might be approached but, as a result of these very developments, how new learning outcomes will be both possible and necessary. Global communications within learning communities will create opportunities for cross-cultural knowledge development. The

challenge is to turn e-information into human knowledge. This is not a technological problem but a social challenge that requires an educational solution. The value of e-Learning is not in its faster access to information, but in its capacity to facilitate communication and thinking and thereby construct meaning and knowledge. Technology differently shapes our experiences and how we see the world. E-Learning is not just another tool. It will change how we experience and view learning.

The vast movement towards e-Learning is clearly motivated by the many benefits it offers. However no matter how e-Learning is praised and innovated, computers will never completely eliminate human instructors and other forms of educational delivery. What is important is to know exactly what e-Learning advantages exist and when these outweigh the limitations of the medium [4].

### **ADVANTAGES OF E-LEARNING**

Like no other teaching form, e-Learning promises to provide a single experience that accommodates the three distinct learning styles of auditory learners, visual learners, and kinesthetic learners. Other unique opportunities created by the advent and development of e-Learning are more efficient training of a globally dispersed audience; and reduced publishing and distribution costs as web-based training becomes a standard.

E-Learning also offers individualized instruction which print media cannot provide. In conjunction with assessing needs, e-Learning can target specific needs. And by using learning style tests, e-Learning can locate and target individual learning preferences.

Additionally, e-Learning is self-paced. Advanced learners are allowed to speed through or bypass instruction that is redundant while novices slow their own progress through content, eliminating frustration with themselves, their fellow learners, and the course [4].

The focus of e-Learning is on fostering student independence, self-reliance, self-motivation, critical abilities, creativity and other characteristics. It also places an emphasis on enhancing active learning, research-led learning and teaching, small-group teaching, and collaborative work [1].

We can summarize the power of the e-Learning and the benefit of all in just one question: „Why e-Learning is such a powerful tool?“

There are a number of reasons.

E-Learning lets us:

- **Eliminate wasted time and money**

With traditional training, the more people being trained and the more geographically dispersed they are, the greater the training costs are. With e-Learning, the cost stays the same whether you're training 100 people or 1000 people, and 100% of your training money actually goes toward training. Typically, the time a student must spend being trained is reduced by about 40% using e-Learning. This metric is cited in various studies comparing traditional classroom instruction to equivalent e-Learning instruction at Xerox, IBM and Federal Express [7].

- **Condense training**

Traditional training attendees have to wade through a lot of “verbal garbage” – salutations and introductions, irrelevant questions from participants, information about the location of restrooms and refreshments, etc. In fact, when we edit out all of the “verbal garbage” and convert a full-day conference into multimedia format, we usually end up with only 3 or 4 hours of actual training. This means for a single 12-person class that lasts 2 days, a company could be saving 120 man hours by putting the class online [2].

- **Make new hires productive**

How often are new hires burning time waiting for more instruction on their duties and responsibilities? Take advantage of day one by allowing them to train on all the basics. E-Learning allows you to easily prepare them for success.

▪ **Keep employees productive**

With e-Learning, employees can receive training anytime and anywhere, whether filling gaps between meetings, sitting at home tending to their sick child, waiting to board a plane, or even flying cross country. Training can happen during down-time instead of being forced when it is not conducive to productivity. E-Learning fits into everyone's schedule and makes the most of everyone's time.

▪ **Pick up the pace**

Some students pick up concepts faster than others, and a lot of them waste time sitting through training sessions that are either not applicable to them or covering subjects they have already mastered. E-Learning allows students to learn at their own pace, and to choose content and tools appropriate to their differing interests, needs, and skill levels.

The pro's and con's of e-Learning vary depending on programme goals, target audience and organizational infrastructure and culture. But it is unarguable that e-Learning is rapidly growing as a way of teaching.

**GOOD PRACTICE AND INNOVATIVE EXPERIENCE IN THE COLLEGE OF TELECOMMUNICATIONS AND POST – SOFIA**

The e-Learning models are highly dependable upon the ambition and extend of the institution. Countries with huge territory normally prefer different variants of distance learning, covering thousands of students, while smaller institutions provide e-Learning as a supplementary method, creating mostly electronic content, computer based tests and electronic simulation.

Taking in to account the specificity of the proposed education in the College of Telecommunications and Post we use e-Learning as supporting traditional teaching methods. Combining e-Learning options with conventional teaching methods is a way to create an exciting and meaningful learning experience in the most dynamically developing sphere of the human activities – telecommunications. As our principal task is to give to our graduates the knowledge they need in order to play an adequate role in our modern, technologically advanced society we use all possible ways of embedding e-Learning into everyday practice. Linking theory with practice, we aim to develop a shared understanding as to how, when and where to apply e-Learning to the best advantage of learners. In the face of this challenge education in the field of telecommunications has the opportunity to create a new paradigm for teaching that reflects student need for interactive technology. One of the valuable general tools for gaining knowledge is simulation. We feel that simulation offers an innovative approach that complements and easily integrates into curricula, addressing the needs of a new generation of specialist in communications and information technologies. The use of simulation in education provides many opportunities for students to learn and apply theoretical principles in a safe real environment.

The purpose of this study was to evaluate simulated experiences as a teaching/learning method to increase the self-efficacy of students during their course of study. The self-efficacy is an indicator of a person's perception of how well he or she is prepared to successfully accomplish a task. The target population of our study comprised all the final year students studying in bachelor degree program "Management and Informatics in Telecommunications and Post" (about 30 students). All students were required to fill a questionnaire after finishing the Management Information Systems course. In addition to close-ended questions we use some open-ended questions in order to enable students to formulate their own answers.

One of the programs used for simulation in the College of Telecommunications and Post is Panorama Nova View - Business Intelligence solution. We use this BI solution during Management Information Systems practice course.

Business Intelligence (BI) applications are decision support tools that enable real-time interactive access, analysis and manipulation of the corporate information. BI applications include the activities of decision support systems, query and reporting, online analytical processing (OLAP), statistical analysis, forecasting and data mining, which allow decision makers at every level to report, analyze and oversee business performance.

In a dynamic and ever-changing business world, getting the right information at the right time in order to maximize operational impact is critical. Panorama Nova View responds to these needs – integrated disparate data sources into a single coherent framework for real-time reporting and detailed, rapidly providing access to otherwise inaccessible or incomprehensible information, and supplying a complete set of report, analysis and collaboration tools. With Nova View the routine is automated and the exceptions are proactively communicated, enabling users to focus enterprise resources where they can have the most effect.

Nova View enables students to access their personalized information through a standard web browser which integrates all business information required by the user. Students can create and track personal and organizational objectives, display, analyze and share business data, collaborate with colleagues, and more. This BI Solution offers a complete set of drill-through, slicing and dicing, and analysis tools that enable students to deconstruct trends and alerts, and isolate specific instances and activities.

By using Panorama Nova View students can simulate real situation and play the role of decision makers. These applications provide them with valuable insight operating information, supporting rapid identification of business problems and opportunities. Students are able to access and leverage vast amounts of information, analyze relationships and understand trends that support business decisions. They can use the Panorama to help them assess and resolve everyday business questions. The Panorama Nova View can make the massive information to ready accessible and usable information.

One of the greatest challenges facing students is the ability to respond quickly to dynamically changing business conditions and performance. With a variety of drill-down and drill-through options Nova View provide students with tools to investigate performance and analyze data to isolate specific organizational dynamic, trends, etc, for example:

- Extracting information from selling data warehouse (Fig.1):

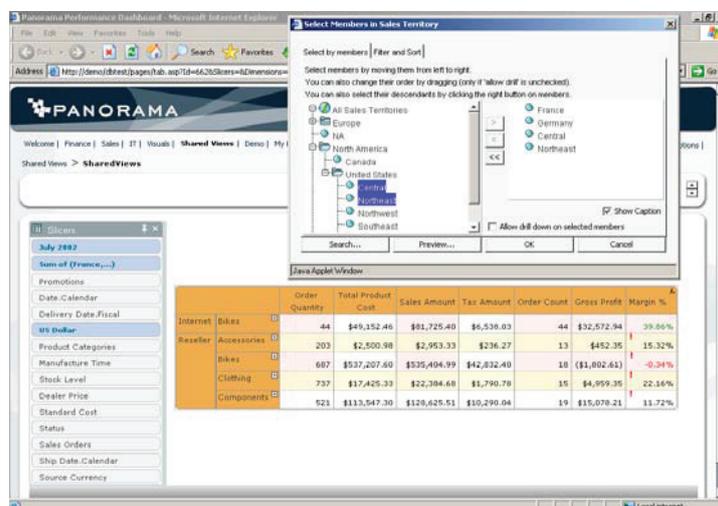


Fig.1. Slicers

- Analyze product performance at the product model level;
- Select the appropriate search mode and define search criteria to limit the display of data as desired.
- Extracting key performance indicators (Fig.2):

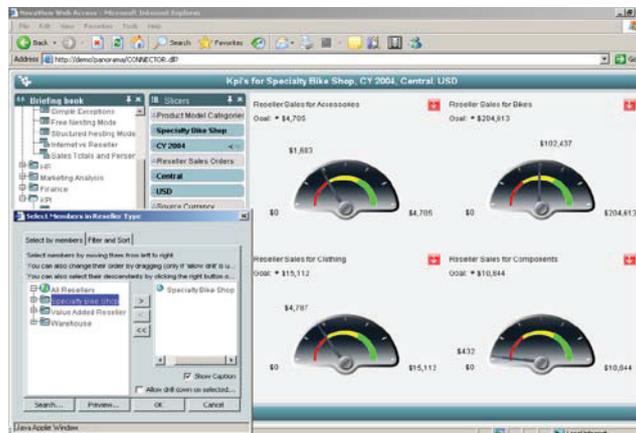


Fig.2. Key performance indicators

- Monitoring the relationship between sales amounts, product costs, margins, etc. (Fig.3):

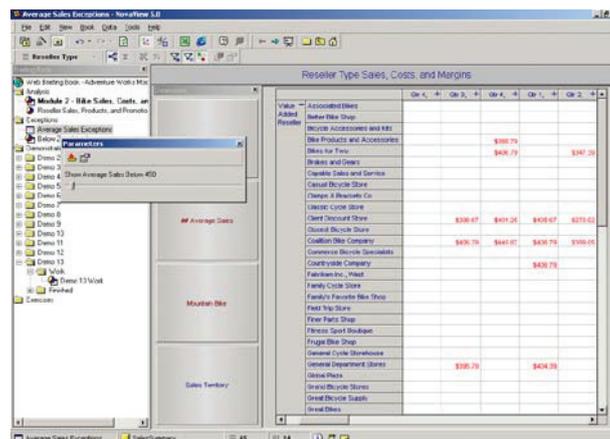


Fig.3. Sales, costs, margins

- Creating reports, etc. (Fig.4):

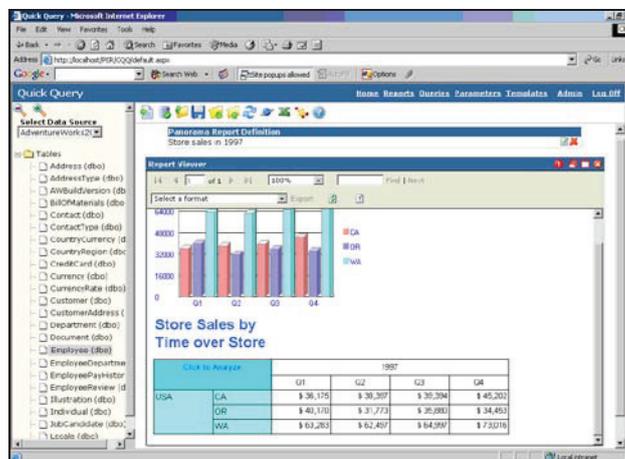


Fig.4. Panorama reports

The results of our study indicated that students experienced a significant increase in confidence (about 73%). Qualitative data suggested that the students found this simulation to be a valuable learning experience; it increased their confidence in what to expect and how to react in complicated business situations.

The students stated that they felt better prepared to solve problems when a similar situation arose. In addition, they expressed that the simulation experience was both enjoyable and effective in preparing them for the final exam.

Students perceived the simulations developed a wide range of transferable personal skills (effective communication, prioritisation, business decision making, self-confidence and reflection).

All students found the Management Information Systems simulation course to be relevant and useful. Additionally, simulations have the potential to further enhance the student experience, providing additional realism and relevance to high-pressure business practice environment.

This study also motivated the researchers to increase the use of simulation in their education setting. The business environment is changing so quickly that educators must not only rely on traditional education models of content delivery.

Higher educational institutions which wish to improve the quality of education and the learning experience have to create an educational system that is clear about its values and sets its aims and ambitions high, and that is able to adapt to the intensive ICT challenges.

## **REFERENCES**

- [1] Aceto, S., Dondi, C. E-Learning, Lifelong Learning and Innovation in the working world, 2009.
- [2] Duggleby, Julia. How to be an online tutor? Burlington: Gower Publishing, 2007
- [3] Garrison, D., Anderson, E-Learning in the 21st Century, 2009.
- [4] Kruse, K., The Benefits and Drawbacks of e-Learning, 2009.
- [5] Rosenberg, M. E-Learning: Strategies for Delivering Knowledge in the Digital Age. New York: McGraw-Hill, 2008.
- [6] Stockley, Derek. E-Learning: Building of successful e-Learning strategy, 2006.
- [7] SyberWork, E-Learning Benefits and ROI Comparison of E-Learning vs. Traditional Training, 2008.
- [8] <http://www.elearningpapers.eu>
- [9] <http://www.panorama.com>

## **ABOUT THE AUTHORS**

Assist. Prof. Anna Otsetova, Department of Management in Communications, College of Telecommunications and Post - Sofia, Phone: +359 2 8062 124, E-mail: [aotsetova@hctp.acad.bg](mailto:aotsetova@hctp.acad.bg)

Assoc. Prof. Ivan Kurtev, PhD, Department of Wireless Communications and Broadcasting, College of Telecommunications and Post – Sofia, Phone: +359 2 8622 893, E-mail: [i.kurtev@hctp.acad.bg](mailto:i.kurtev@hctp.acad.bg)