# USING THE E-CLASS OPEN PLATFORM FOR E-LEARNING SUPPORT AT THE TEI OF LARISSA, GREECE

George Blanas

*Abstract: In the current paper we firstly give a short introduction on e-learning platforms and review the case of the e-class open e-learning platform being used by the Greek tertiary education sector.*

*Our analysis includes strategic selection issues and outcomes in general and operational and adoption issues in the case of the Technological Educational Institute (TEI) of Larissa, Greece.*

*The methodology is being based on qualitative analysis of interviews with key actors using the platform, and statistical analysis of quantitative data related to adoption and usage in the relevant populations. The author has been a key actor in all stages and describes his insights as an early adopter, diffuser and innovative user.*

*We try to explain the issues under consideration using existing past research outcomes and we also arrive to some conclusions and points for further research.*

*Keywords: asynchronous interaction, collaboration, web-based interaction, evaluation, organizational strategy*

*ACM Classification Keywords: H.5.3 Group and Organization Interfaces*

*Conference: The paper is selected from Third International Conference "Modern (e-) Learning" MeL 2008, Varna, Bulgaria, June-July 2008*

## Introduction

The development of an effective platform must take under consideration the latest developments in human interface, cognitive development, organisational and management research in order to possess the required portability, functionality, usability, serviceability, and other characteristics that will fit to the organization within which it is to be used.

According to Colace, De Santo & Pietrosanto (2006) a contemporary E-Learning platform can be viewed as organized into three fundamental macro components: a Learning Management System (LMS), a Learning Content Management System (LCMS) and a Set of Tools for distributing training contents and for providing interaction. The authors have developed an evaluation model for the selection of e-learning platforms. They consider that the key characteristics would be XML standardisation, standardised descriptions of users, services that satisfy both teachers' and students' needs, synchronous communication capabilities for on-line teaching and asynchronous communication independent of time.

## The strategic selection of the e-class e-learning platform

According to Dempster & Deepwell (2003) the national projects have a significant influence on the development of e-learning practices into individual institutional practices especially on the formulation of standards and the dissemination of best practices.

The e-learning support platform based on the claroline open source project (http://www.claroline.net/) was evaluated and selected in the academic year 2003-2004 by the technical subcommittee within the GUNET (Greek Universities NETwork) project and was distributed to network managers of all participating institutions (14 TEIs and 18 universities that constitute the tertiary public education sector of the country) for possible voluntary use.

The key criteria for the selection of the platform was ease of usage, flexibility, ease of upgrades, support of learning standards like SCORM, IMS, IEEE plus its ability to interoperate with standard open platforms like Linux, Apache, PHP, MySQL and Sendmail (http://www.gunet.gr). Since it is under open source licensing, it was

feasible for a programming team to make the necessary alterations to its code in order to integrate it with existing network services (eg email) giving access to existing user accounts. The cost was also a key criterion along with the management overhead for licensing processes.

In the academic year 2003-2004 only a few network managers installed the software and advertised its existence to staff within their institutions. In some cases it was not even the network manager, it was one of the technical staff who took a special interest in the platform. A key common characteristic between these people was an excellent computer science background that was based on UNIX systems. Another key common characteristic was experience in using open source solutions. The manager of the technical committee exhibited both the above characteristics. The members of the GUNET administration council were representatives from the participating institutions and the majority had computer science background. Their selection from their institutions was based on their ability to understand technical issues but not all of them favored open systems platforms, the key reason being the possible perceived risks inherent in the possibility of non-continuous development or the unavailability of technical support.

The project was fully translated in Greek and the teacher can select either the Greek or the English language. After its first introduction the platform has undergone two major revisions.

The outcome of the above discussion is that open source software can become a strategic option when the level of technical development of the product is high, the level of technical expertise of the people using it is sufficient and the level of understanding at the top management level is mature. If there was no available mature product or if there was not sufficient expertise in programming its interface for interoperability or if managers would follow the stereotypes that make them feel secure, the e-learning adoption and usage scene would probably be quite different today in Greek tertiary education institutions.

Most case studies for e-learning platforms in the literature refer to adoption of strategies at university level. The Greek case is probably a unique case internationally because an e-learning platform has been adopted and diffused to all tertiary institutions within the country. This can be explained because at that time there were few small islands of teachers who had experience and knowledge and interest on using such platforms and in most cases they could not get such systems approved by the administration department within their university. The use of such platforms at the time of the strategic decision made was rare even in high tech oriented American universities. We can arrive today to the conclusion that the timing when the strategic decision was made was right. In case that some institutions had already started with other platforms, it would be difficult for them to switch from a known platform to a new one The acquired training and experience in using the platform would add to the inertia or resistance to change. It also would be difficult to persuade the users especially if the existing system would be a technically better platform, especially in institutions where acquisition cost would not be the main cost but probably training or transferring of teaching material would not be feasible options.

Today the platform is widespread within the Greek tertiary education sector. But at the same time, there are significant variations in the levels of adoption amongst institutions, schools, departments and teaching staff that will be analyzed in the following paragraphs. Do these variations exist because of the strategic decision for the selection of the specific platform? Are there any e-class users who would prefer another platform? Are there any other users who would adopt another platform instead? We will try to answer these questions in the following paragraphs.

## Adoption phases within the TEI of Larissa

There have been several papers on the adoption of e-learning within institutions. Banks & Powell (2002) have researched the dimension of readiness for implementation within their institute. Collis & De Boer (1999) have researched the role of pioneers or early adopters in the successful diffusion of the e-learning strategy. Lisewski (2004) describe the outcomes of a top down strategy implementation in a bottom-up carried culture. Newton (2003) ahs also analysed a case of diffusion strategy. The outcome of the above studies can be summarised that diffusion is easier in environments that have better organizational culture and training and mentoring processes add significantly to the success of the implementation strategies.

In the TEI of Larissa there was no top-down implementation strategy. It was introduced as an option and was diffused by the actors themselves. The early adopters of the e-class platform were teaching staff from the business and technology schools that either had recent international experiences or were keen to experiment in new learning support systems. Exposure to joint European projects was also a definite factor for early adoption. In the first year of use the number of modules on the platform could be counted in the figures of one hand and belonged in two departments. It is common in large bureaucratic organizations that a very small percentage of people experiment and try new tools and methods because of the high switching costs in time and effort in organizational environments which are characterized by high inertia (Trowler, 1998). Another reason is that some of them realize that using these systems is a double sided sword since students can e-mail to you or even chat with you increasing their workload.

From a survey that we did to teachers who were early adopters of the platform we found out that at that time (2004) less than less than ten out of almost 300 permanent staff were aware of what would be the benefit of this type of software platforms mostly because they had seen it elsewhere either in UK or USA universities where they had worked or visited. The number of teachers who became aware of the opportunity for e-class adoption in their modules was less than 30%, since most of the staff at that time did not use network facilities and the majority did not use e-mail and seemed to have developed technophobia towards new technologies. The close to 800 part time or contract staff were not aware of the given opportunity at that time. An institution wide call for a seminar attracted less than 20 staff, both permanent and on contract, some of whom became the next adopters. These teachers were younger and most of them had done recent higher studies abroad. The results show that younger people try new things easier without taking the switching costs as seriously, or because these costs are much lower for them since they are still in the first phases of establishing their own communication channels and methods in their modules (Wills, S. & Alexander, 2000)).

The evolution of the number of students using the platform and the number of modules added on the platform is exponential during the last four years. Today the number approaches almost two hundred and eighty (out of approximately 800 modules in total) spread in 16 out of the 18 departments offering bachelor degrees. The institute also runs four master's degrees in various business, management and economics specializations and one in computer science in cooperation with the Staffordshire and Coventry UK universities, with all modules supported on e-class in English language. One master's degree in cooperation with the Bari university in Italy offered by the School of Agriculture does not use the platform. The platform has also been used for the management of administrative information within the business school and the postgraduate offerings. The platform has been used as an administration tool at a time where webpage development was not an easy option and is continued because it can be used by non experts. The profile of teaching staff using the platform varies between departments. All staff teaching in postgraduate courses are network literate and have adopted the platform. In newly established departments the majority of staff are network literate and have adopted the platform. The computer science department is new but also has the characteristic of high exposure to network usage and all staff uses the platform. One new department despite the fact that its staff is network literate has not adopted the platform yet. The main reason is that they have very close and continuous interaction with students because they have many face to face workshops and laboratories and small numbers of students and they prefer to communicate in more traditional ways. Most of the older traditional departments have older network illiterate staff that are not adopters in their majority. Contract staffs in these departments are adopters in their majority because they are network literate. The departments with the larger number of modules on e-class are the ones with the largest student numbers. This can be explained from the fact that larger numbers are difficult to manage without some automation that such tools bring in the communication processes and also from the fact that a larger number of contract staff is required to serve the increased teaching requirements. Figure 1 shows the evolution of modules being supported on the platform and figure 2 the evolution of student access to the e-class environment. The large difference between the two categories of actors is that students are exposed to the e-learning system even in cases where the majority of staff are non-adopters because at least some colleagues have adopted the platform and all students take almost all modules at some stage.

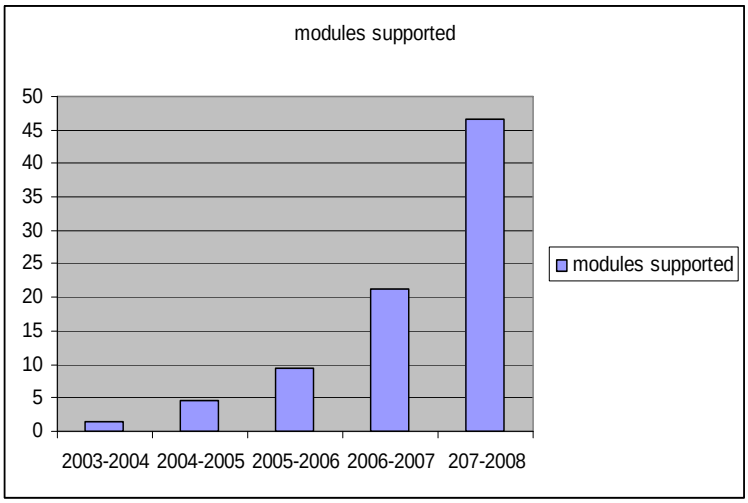


*Figure 1 Percentage of modules supported on the e-learning platform*

The proliferation of e-class adoption in time can also be explained by the widespread benefits to both students and staff. Staff realize that their colleagues using the platform achieve much more in less time. Also negative feedback from students who have been accustomed to the facilities offered by e-class in other modules tend to persuade more staff to try it. Also new generation of students are already network literate when they enter the institute and expect similar capabilities from their teachers. Many staff who are older and close to retirement prefer to retire earlier rather than adopting networking tools. The number of permanent staff has decreased rapidly to less than 250 because the teachers leaving are more than the newcomers. Many staff who cannot retire are in the process of trying to become network literate and the e-class platform has played a significant role in that development. While many of them were negative when asked to use e-mail in the past it seems that some of them change their attitude slowly.

We watch vividly how the social norm developed in class because of the e-class wide adoption tends to overcome the long developed social inertia in some older permanent teaching staff.

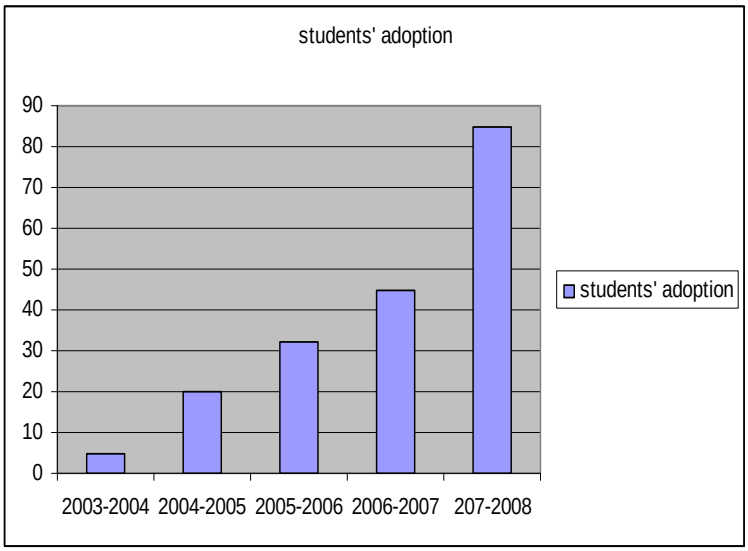


*Figure 1 Percentage of students using the e-learning platform*

We interviewed several of these colleagues trying to enter the networking wagon asking their fears and needs and it seems that there is a great need for mentoring rather than just training (Beetham & Bailey, 2002). We interviewed several younger adopters and mentoring roles seems to be extremely difficult for them to take. The

number of mature people who are adopters and could play the mentoring role is counted with the figures of one hand and they are very active and busy people with no available time. It would probably be a good best practice to relieve them from some of their secondary duties and ask them to apply a systematic mentoring strategy in critical sections of the academic community.

## Use of e-class in purely administrative processes

The ease of administration and the capability to use e-class as storage of unstructured information and its automatic dissemination of e-mails to registered users gave us the opportunity to use it as a simple effective dissemination tool. The author has applied it in the administration of the postgraduate courses since their start. He also applied it in the business administration department, in the administration of research projects and also in conferences. The tool is simple and facilitates communication with many people greatly.

## Limits

While the e-class platform does not include all the characteristics described in Colace, De Santo & Pietrosanto (2006) our experience shows that he majority of staff use only a limited set of its capabilities, the main reason being that they require longer time than doing that in class. It is true that in internal teaching mode the current teacher tends to like the face-to-face role [s]he has in the classroom rather than being in a networking distance contact with several people. We may see in the future evolving new types of teachers that have grown up using chat that would probably prefer to use a chat facility rather than speak in class.

While the majority of teachers have not decided to adopt the e-class platform yet, the software is evolving and becomes more professional in many aspects of view, being in many features better than proprietary software. Of course the comparison with the better proprietary software leaves it still behind in some features. The question is whether there are any teachers who would like use the alternative platform. The teachers who do not use the e-class platform would not use any other platform, they are not aware of its existence. From the teachers who use the e-class platform, initially there were two but their opinion counted much more because they held high management positions and have high influence in the institution who have tried in the early stages to persuade for the selection of alternative platforms. Now they are loyal good users of e-class and have been fully persuaded that it is a much better option overall. In 2004 when we introduced e-class we also started three of our master's degrees in cooperation with an UK university that uses a proprietary e-learning system. There were some thoughts about handling the two systems but we stayed on ours and they stayed on theirs. The main reason was learning switching costs. Later when we introduced courses that were offered partially in Greece and partially in UK with another university that uses its own proprietary system we had to decide whether our students should learn both systems or we should use their system only for postgraduates. We did not switch for the same reason explained above and we found out that students switch very quickly to the UK system after they have been used to our system. We interviewed them on this and they stated that the features are common, its mainly the interface that differs but not considerably. Knowing that the alternative system has extra synchronous capabilities we asked the students whether they had used them, The answer was negative and was confirmed with our colleagues in UK. The extra features are not used because they require extra effort and comparing to class contact is inferior, they are only useful in a distance learning situation as seen today.

According to Sharpe, Benfield & Francis (2006) there are three distinct modes of use, i.e. the baseline mode where the teacher distributes course information and carry out course administration, the blended mode where the teacher uses improved communication like discussion boards and e-mail, uses collaboration on student projects, provide improved student assessment and develop reusable learning content, and the on-line course module that use mode two features and allows students to work on a distance learning mode. The e-class platform facilitates all three modes, being more effective in the first two. The percentage of teachers using the blended mode is less than 20% at this stage and the rest operate in the baseline mode. Our interviews with staff who would like to move to the blended mode is that they cannot find the time required because the blended mode operation is not feasible with the large numbers of students that are enrolled in most of our departments.

## Points for further research

After the first seminar on e-class that happened in 2004, we do not have any new seminars, all new users are learning how to use it by themselves. For people who have network experience it is easy, especially if they get some initial help, especially on how to use the common features. It would probably be a strong case to organize structured seminars for the older staff that are not close to retirement and are still afraid to try to use the platform. Before we do that we could probably investigate in depth the reasons for avoidance and see whether the adoption theories hold.

Another issue for further research is to evaluate the switching costs for an organization to change to another platform depending on the type and the characteristics of the platforms being used.

It is still unclear what percentage of non adopters opt for not using the networking technologies including the e-learning platform for reasons other than fear of the technology. There are definitely staff who know how to use he technology, some of them have been using it for private purposes. Why are they not using them for teaching?

## References

Banks, S. & Powell, A. (2002) Developing institutional readiness for implementing networked learning, *Networked Learning Conference Proceedings,* 26–28 March 2002, pp. 41–46.

Beetham, H. & Bailey, P. (2002) Professional development for organisational change, in: R. Macdonald & J. Wisdom (Eds) *Academic and educational development: research, evaluation and changing practice in higher education* (London, Kogan Page), 164–176.

Colace F. De Santo M. & Pietrosanto A. (2006) *Evaluation Models for E-Learning Platform: an AHP approach*, 36th ASEE/IEEE Frontiers in Education Conference, October 28 – 31, San Diego, CA

Collis, B. & De Boer, W. (1999) Scaling up from the pioneers: the TeleTOP method at the University of Twente, *Interactive Learning Environments,* 7(2–3), 93–111. Garrison, R. & Anderson, T. (2003) *E-learning in the 21st century: a framework for research and practice* (London, RoutledgeFalmer).

Dempster, J. & Deepwell, F. (2003). *Experiences of national projects in embedding learning, technology into institutional practices*, in: J. K. Seale (Ed.) *Learning technology in transition from individual enthusiasm to institutional implementation* (Lisse, Swets & Zeitlinger),45–62.

Lisewski, B. (2004) Implementing a learning technology strategy: top-down strategy meets bottom-up culture, *ALT-J,* 12(2), 175–188.

Newton, J. (2003) Implementing an institution-wide learning and teaching strategy: lessons in managing change, *Studies in Higher Education,* 28(4), 427–441.

Sharpe R., Benfield G. & Francis R. (2006) *Implementing a university e-learning strategy: levers for change within academic schools*, *ALT-J,* Research in Learning Technology, Vol. 14, No. 2, June, pp. 135–151

Trowler, P. (1998) *Academics responding to change: new higher education frameworks and academic cultures* (Buckingham, SRHE and Open University Press).

Wills, S. & Alexander, S. (2000) Managing the introduction of technology in teaching and learning, in: T. Evans, & D. Nation (Eds) *Changing university teaching: reflections on creating educational technologies* (London, Kogan page), 56–72.

## Author's Information

*Dr. George Blanas – Associate Professor; Department of Business Administration; TEI of Larissa, GREECE;*
*e-mail: blanas@teilar.gr*