# Combining Synchronous and Asynchronous Distance Learning for Adult Education: The Greek Army Case

Ilias Maglogiannis [1], Constantinos Bourletidis [2] and Kostas Karpouzis[3]

[1] *University of the Aegean*
*Dept. of Information and Communication Systems Enginnering*
[2] *University of Athens,*
*Deptartment of Economics*
[3] *National Technical University of Athens,*
*Image, Video and Multimedia Systems Laboratory*
*email: imaglo@aegean.gr*

## Abstract

*A major issue in military training is the territorial dispersion of military personnel which enforces officers to be gathered in training camps to attend the lessons. This is extremely costly, as the learners have to move to the training camp and leave their position. The School of Research and Informatics for Officers of the Greek Army in cooperation with the academic community in Greece implemented a pilot computer assisted distance learning programme in Operational Business Management. The present paper describes the results, the experience acquired during the implementation and an overall assessment of the pilot program.*

## 1. Introduction

Current information technologies provide the capabilities for education without the need for presence at a physical classroom; this is defined as "distance learning" [1]. One of the main goals of open distance learning is to provide access to all levels of education to individuals that distance or personal circumstances make it very difficult for them to attend conventional classes [2]. The military environment is one of the best suited for distance learning, since learners are geographically dispersed and absence from their positions usually causes additional problems in the operation of their units.

This paper presents the results of a pilot distance learning course, taught to military personnel. Section 2 provides the adaptation of basic principles of distance learning to the military environment, while Section 3 provides the results of the courses and their assessment and Section 4 concludes the paper.

## 2. The adopted distance learning model and system architecture

The "open learning and classroom" distance learning model combines the usage of a study guide with additional educational material, enabling individual learners to complete studying in their own pace. The teaching material is available in different forms and can be studied in a place and time that learners themselves choose. Learners can be gathered in predefined locations to attend lectures via interactive teleconferencing environments. Aim of these meetings is to discuss concepts and principles, inspire activity to solve specific issues, engage in laboratory work and carry out educational exercises [3].

The distance learning programme for the Greek Army personnel was realized using a disciplinarian adaptation of the aforementioned model. The material was produced with the principles of distance learning for adults in mind, i.e. included self-evaluation exercises, a study guide for each teaching unit, and six print books, matching the courses of the program. Specific educational objectives were identified. For instance a fundamental objective was to familiarize the Greek Army staff with the Internet as an educational medium. Thus, the staff was not merely trained in Operational Business Management issues, but also in self-training.
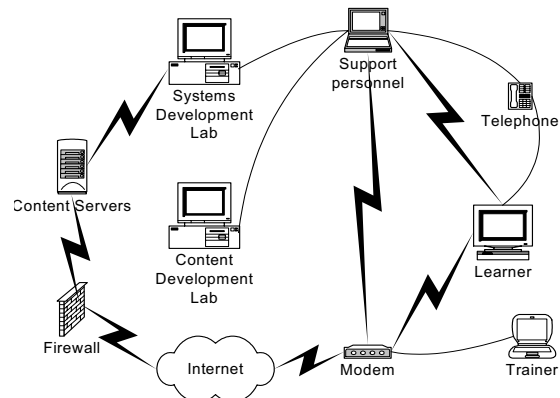


**Figure 1: Distance learning integrated architecture**

The network architecture of the distance learning environment is depicted in Figure 1. In a nutshell, the network architecture consists of the distance learning software and systems development laboratory, the content development

laboratory and the teaching support group. The distance learning environment that was employed for the operational business management course was WBT Topclass. Advantages of this system include AICC certification, email-based communication and CSCW-oriented tools, test compilation and paper assignment based on actual progress of the learners and reporting of total study time and coverage of material.

In order to extend asynchronous teaching with constructive activates, learners attended fifteen lectures by members of the academia or established business people. This service provided users with integrated teleconferencing, use of Windows applications in a multi-user environment, lecture recording and playback on demand and recording of learners' responses for evaluation.

Evaluation of acquired knowledge was performed both in-course and afterwards. Following each course, learners took a two-hour on-line test and submitted a written paper. After the completion of the six courses, learners took a written test in the UoA premises and submitted a final thesis.

## 3. Results – Evaluation

The assessment process included technological evaluation and academic assessment of the system and the course. It was implemented via questionnaires filled in by the learners, statistical data amassed by the e-learning platforms, regarding the stability and utilization of the system and the performance of the learners in the examinations.

System reports showed that e-class participation was about 70%. It has to be noted that since learners were provided with printed material, they were able to put in additional study hours without utilizing the asynchronous e-learning platform, which was particularly overloaded during weekends and public holidays.

The questionnaires consisted of questions concentrating on general issues on the program methodology, the quality of the material and the availability of the instructors, interactive questions and questions regarding the teaching material itself. Results from gathering and processing the learners' responses indicated that 43% of the participating military personnel declared that delivery via distance learning platforms is appropriate, because job obligations do not leave much time for continuing education. A major part of the participants also stated that one of the main reasons for enrolling in the program was that it was offered by an established, non-military academic institution and not by an internal military training office. Regarding the electronic communication between learners and instructors 53% of the participants mentioned that they used this feature extensively, while 47% hardly resorted to emails for questions and other problems. Indeed, the platform statistics show that 123 email messages were answered monthly, which account for 2,5 messages per active participant. This essentially means that almost half of the participants did not need any additional help with the course or the platforms, at least besides any assistance provided during the synchronous sessions.

For most participants, synchronous sessions were quite entertaining and original, since they offered a means of communication and interaction with colleagues. When this process was supplemented with academic activities the learners realized that synchronous teaching was not merely a communication tool, but part of the greater image. As a general rule, questionnaire evaluation showed that 90% of the participants were satisfied from the on-line sessions and requested additional on-line meetings with instructors. This form of distance learning is closely related to conventional classroom teaching and eliminates the feeling of isolation in distance learning learners.

## 4. Conclusions

The proved successful practices of the described pilot program include the combination of synchronous and asynchronous distance learning and the limited number of participants, which facilitated performance tracking and evaluation. More specifically, the platform combination seems to be the optimal teaching scheme, since it combines advantages from both distributed and open learning classroom models. The requirement of the learners for more son-line lectures indicates the significance of the synchronous part in a distance learning environment.

Future expansion should include the enhancement of asynchronous teaching material with adaptive multimedia information, which is essential with respect to keeping learners focused and stimulate their interest. With respect to the course content itself, possible ideas for enrichment include concepts deemed fundamental for any military organization, e.g. document management, human resource management, foreign languages and ICT basic skills.

## 5. References

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