MANAGING TEACHERS' PRACTICUM IN INITIAL TEACHER PREPARATION USING AN ELEARNING PLATFORM.

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ABSTRACT

This research study focuses on the development and evaluation of the Learning Space Platform™ as a resource for the improvement of the pre-service Teachers' Practicum. The Teachers' Practicum is a compulsory course for pre-service teachers studying at the University of Cyprus. The course aims at familiarizing pre-service teachers with the class environment, with planning for instruction and with the various roles undertaken by teachers in school settings. The course also involves assessment that is carried out by supervisors aiming to sustain the quality of work. This paper reflects upon describing the processes applied while embedding on line technologies in a university course like Teachers' Practicum. Furthermore, the study discusses the users' reactions as far as these changes are concerned and the benefits derived from using on line technologies. In order to evaluate the usability and functionality of the elearning platform, seventeen pre-service teachers and six practicum supervisors participated in a pilot study using the platform during one semester. The results indicate that the process of embedding on line learning in university courses demands great effort and time from the instructors during the design and implementation of the course but provides more time at later stages. Finally, according to the pre-service teachers and practicum supervisors, using the elearning platform for the Teachers' Practicum provided users with enhanced time management and helped them manage the resources in more efficient ways.

INTRODUCTION

Many universities internationally are now faced with the challenge of adapting their programs of study in order to better respond to the requirements of the knowledge of society scenario. Information literacy and more specifically new internet technologies can be applied in order to succeed to the demands of the vast knowledge (Mercer, 1999). Universities around the world modernize their learning, organizational and managerial procedures and use the new internet technologies in order to support that transition (European Center for the Development of Vocational Training, 2001, European Commission, 2000). According to Svetcov (2000), almost 90% of all universities are already using some form of new internet technologies in their programs of study.

New internet technologies aim at building transferable knowledge and skills that are linked to organizational performance (Clark & Mayer, 2003). Furthermore, this form of technologies can help individuals achieve personal learning goals by providing a time pace that better responds to their personal needs. Using the new internet technologies enables academic institutions not only to provide open access to informatics education but also to accelerate learning through the continuous exchange of ideas with people around the world (European Commission, 2000).

Other than the aforementioned advantages, new internet technologies embedded in educational settings can also provide scaffolds to the students by taking advantage of asynchronous communication, which facilitates communication with the instructor/coordinator or with other students at times of mutual

convenience. Furthermore, new internet technologies encourage the development of a community of learners and teachers in which the contribution of each person is important for the development and growth of the community and in which the main aim is to enable the students to construct real understanding, develop critical thinking, problem solving and decision making skills (Goodyear, 2000; Ryan & Hall, 2001; Masie, 2000; Stevens, 2000).

The purpose of this study was the design of an elearning platform for managing and enhancing the quality of the Teachers' Practicum in initial teacher preparation at the University of Cyprus. Particularly, the research reflects upon describing the amendment of processes used both by student teachers and practicum supervisors in order to take advantage of the internet technologies. More specifically, the aims of the research included the formulation of the specifications needed for designing an elearning platform that could be used in managing and upgrading the processes of the Teachers' Practicum, the construction of an elearning platform based on the specifications and finally the assessment of usability and functionality of the elearning platform.

CONTEXT: TEACHERS' PRACTICUM

The Teachers' Practicum is a compulsory course for all pre-service teachers studying at the University of Cyprus. The course has a unique structure since for each semester at least 35 supervisors, 100 pre-service teachers, 100 primary education teachers and 20 elementary schools are involved. The course has a duration of one semester and its goal is to familiarize pre-service students with what takes place in school, with planning for instruction, with evaluating learning outcomes and with the various roles undertaken by teachers in school settings. Furthermore, it aims at providing pre-service teachers with the opportunity to familiarize with school life and school work. During the course, each pre-service teacher is assigned to a specific classroom and a specific teacher that serves as the pre-service teachers' mentor. Teachers' Practicum supervisors serve as advisors to the pre-service teachers during the semester; they advice them on how to develop and implement their lesson plans and they evaluate their progress by observing them while teaching.

Each pre-service teacher, in cooperation to her mentor and the practicum supervisors must teach specific number of lessons from the five main areas of the school curriculum (Greek Language, Mathematics, Science, Social Sciences and Technology) taking over the classroom and going through all necessary stages: preparing the lesson, choosing media and teaching approach, preparing activities and evaluating the results.

The uniqueness of this course is not only related to the vast amount of people that are involved to it but also to the unique and complicated timeline that it follows. Diagram 1 presents the structure and timeline of Teachers' Practicum.
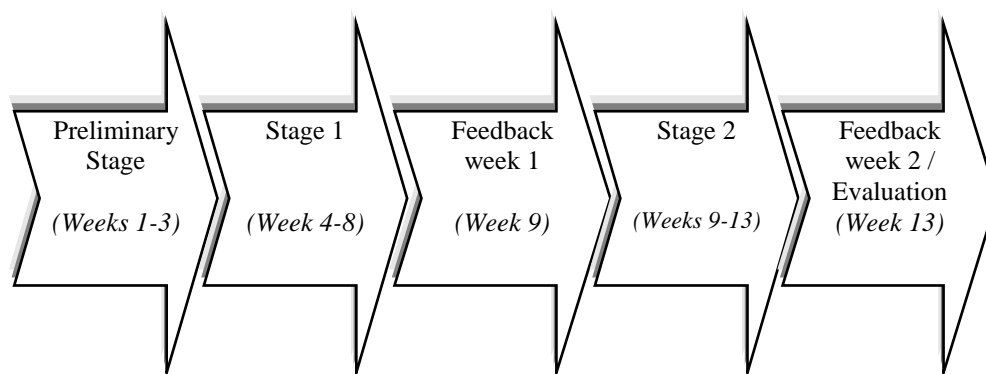

Diagram 1. Teachers' Practicum Timeline

The preliminary stage begins during the first week of the semester and during that period the pre-service teachers interact with supervisors on matters relating to teaching methodology in natural sciences. During the first and second stages, pre-service teachers are assigned to a classroom and are responsible for teaching specific subjects each week based on the curriculum of the school class they are assigned to. While pre-service teachers are in schools they receive feedback for their work by their supervisors. This is also done during the feedback weeks.

RESEARCH METHODS

The research process was divided in seven phases as shown in the diagram below. This was necessary in order to be able to manage the different facets of the research.

| Duration	Description of research process
1 month	Phases 1 & 2: Formulation of specifications for an elearning platform that could be used for the purposes of the Teacher Practicum course.
2 months	Phases 3&4: Design of the elearning platform based on specifications set in phases 1&2. Functionality testing of the elearning platform.
2 months	Phases 5&6: Evaluation of the usability and functionality of the platform by practicum supervisors and graduate students. Redesign of the platform based on the evaluation.
4 months	Phase 7: Pilot study and implementation of the elearning platform.

Diagram 2. Research phases

The current article presents results from both phases 1-6 (the modified elearning platform) and Phase 7 (implementation of the elearning platform). The sample of the research study consisted of all natural science practicum supervisors (six) and seventeen elementary pre-service teachers. Sampling of pre-service teachers was based on a random procedure; seventeen students were chosen out of forty that volunteered to participate in the research.

Data collection was based on semi structured interviews that were conducted at the end of the pilot study. The design of the interviews was based on previous research efforts (Goodyear, 2000; Masie, 2000; Ryan & Hall, 2000; Stevens, 2000). The semi structured interviews were mainly aiming at evaluating the elearning platform (advantages and disadvantages of the elearning platform) and comparing the elearning platform to the traditional method employed during the Teachers' Practicum. Some questions were also aiming at finding the users' attitudes towards using the new internet technologies for managing the workload of Teachers' Practicum. The analysis of the results was based on a qualitative method (LeCompte & Schensul, 1999). The analysis included coding and categorizing the answers provided by the student teachers and practicum supervisors during the semi structured interviews.

RESULTS

The final results from phases 1-6 include a modified version of the Learning Space Platform™ to better suit the purposes and needs of Teachers' Practicum at the University of Cyprus. The screenshots below show some of the main functions of the elearning platform.
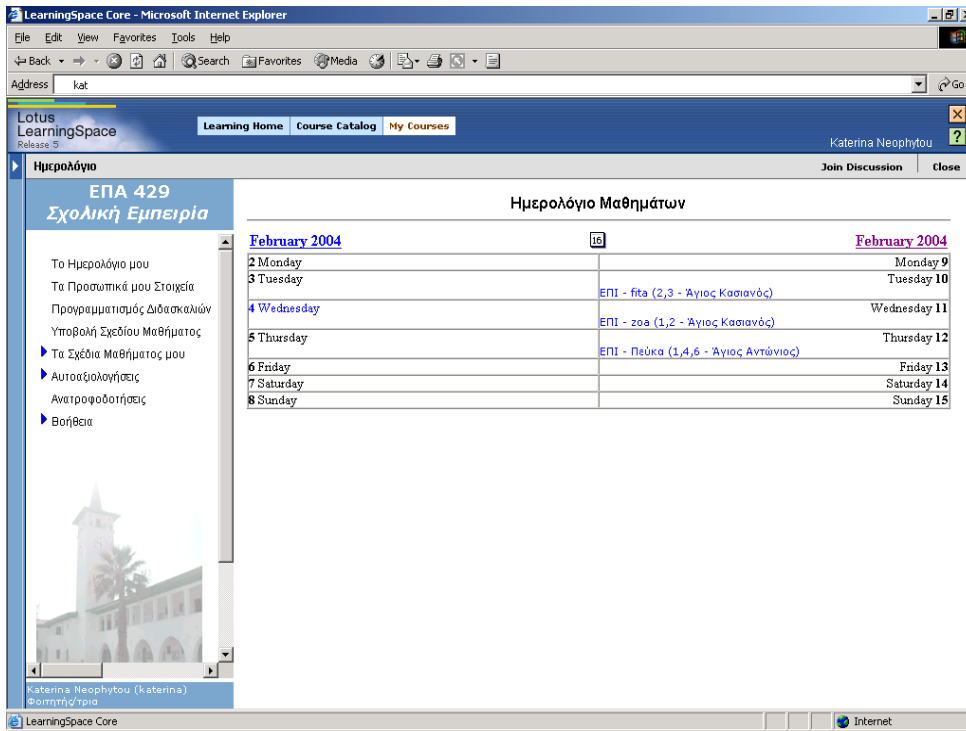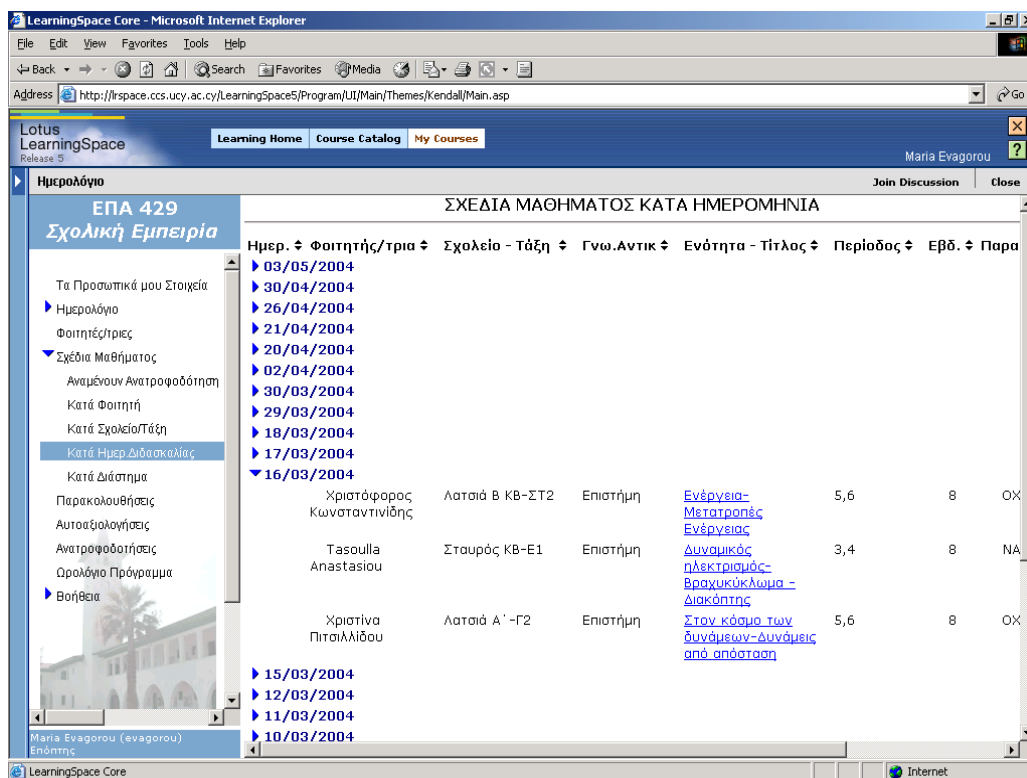
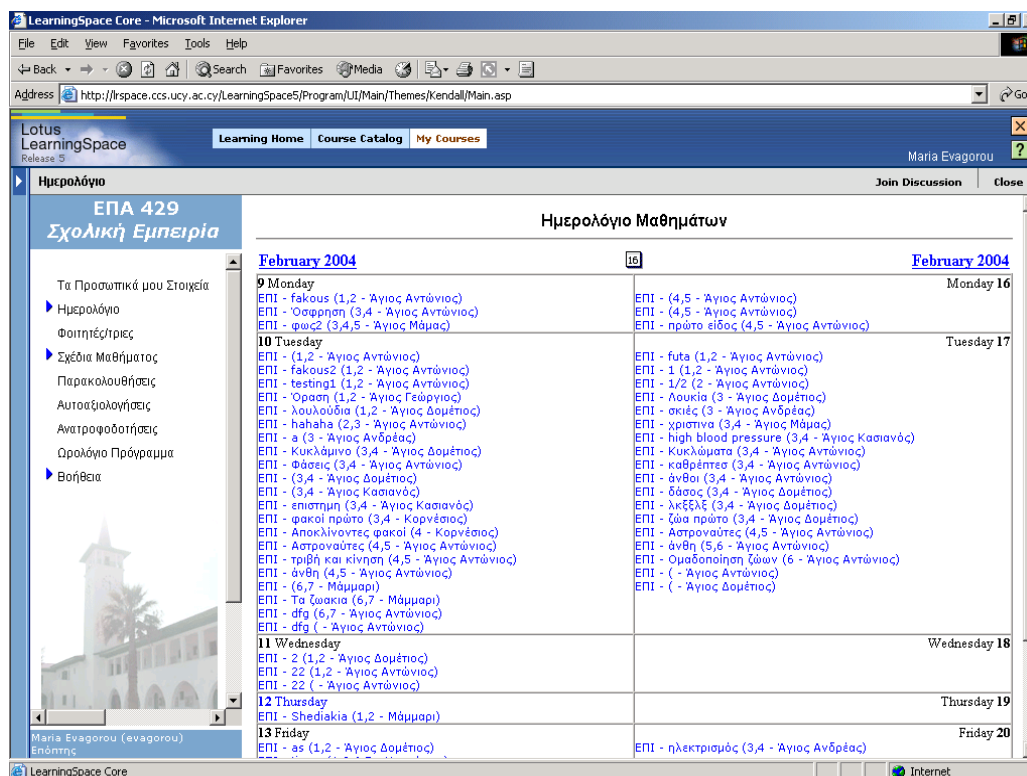Picture 1. Scheduling of lesson plans (pre-service teachers' view)
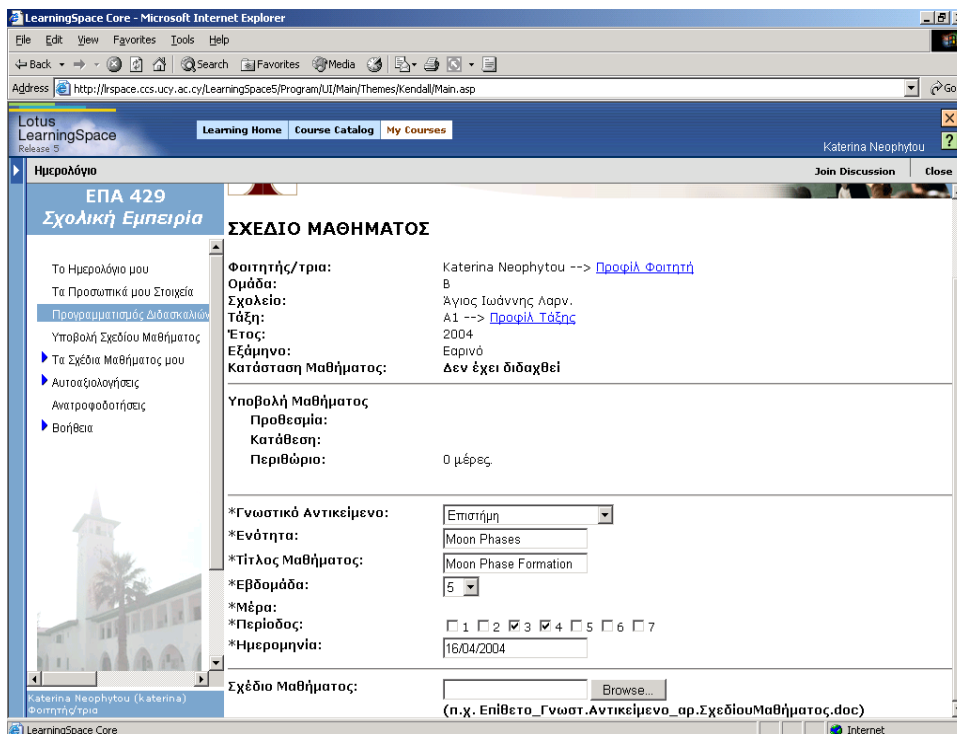
Picture 2. Submission of lesson plans (pre-service teachers' view)
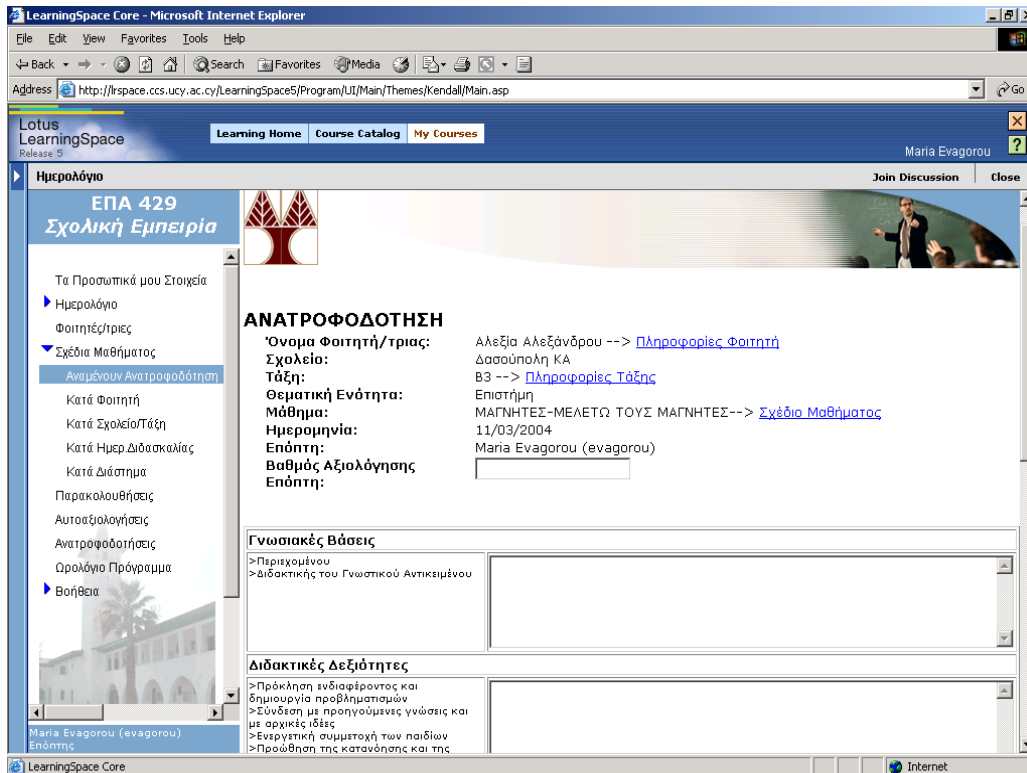
Picture 3. Submission of assessment (supervisors' view)

Picture 4. Database with lesson plans and assessments submitted by student teachers (supervisors' view)

Picture 5. Calendar with all pre-service teachers' schedule of teaching (supervisors' view)

The analysis of the data collected in the pilot study revealed seven categories in which new internet technologies, and more specifically the use of the elearning platform, is considered better than the usual procedure followed in the Teachers' Practicum. Furthermore, five categories were found in which the use of the elearning platform is considered to be less advantageous than the usual procedure.

Table 1 presents the advantages from using the elearning platform for the Teachers' Practicum.

Table 1. Advantages of the elearning platform

	Pre-service teachers N=17	Practicum supervisors N=6
Time management	17*	6*
Check if the lesson plan is delivered	1	6
Communication with pre-service teachers/supervisors	5	4
Organizing teaching schedule (when to teach, when to submit lesson plan etc)	9	------
Saving paper	3	------
Changing lesson plan after submission	2	------
Access to all functions from home	4	5

* The numbers shown in the table are the number of users that gave that answer during the interview. That number does not suggest that other users did not agree with the same statement.

As shown in Table 1, the pre-service teachers suggest seven categories in which the platform is better than the usual procedure and the practicum supervisors suggest four categories in which the elearning platform is more advantageous than the usual procedure. The advantage that is mentioned by all users is time management. Furthermore, an equally important advantage according to the pre-service teachers is

the fact that they can organize their teaching schedule (53%) much better by using the elearning platform rather than using the ordinary procedures. Finally, both pre-service teachers and practicum supervisors state that by using the elearning platform they can have access to all functions (submission of lesson plan, submission of evaluation, scheduling of lessons) of the Teachers' Practicum at all time and from any place. One of the practicum supervisors gave the following answer when she was asked about the advantages of the elearning platform:

> *...using the elearning platform provided access around the clock and from any place. With the platform I can check whether a pre-service teacher is scheduling a lesson and check when a lesson was submitted without having to go to the office.*

Table 2 below presents the disadvantages of using the elearning platform during the Teachers' Practicum.

Table 2. Disadvantages of the elearning platform

	Pre-service teachers N=17	Practicum supervisors N=6
Technical problems	9*	1*
Lack of personal communication	4	4
There is no report of receipt of the lesson plans	2	2
The updating of each pre-service teacher' progress is not automated	0	6
Pre-service teachers are not listed alphabetical in the platform	0	5

* The numbers shown in the table are the number of users that gave that answer during the interview. That number does not suggest that other users did not agree with the same statement.

As shown in table 2, the most important disadvantages of using the elearning platform are the technical problems that the users faced during the semester and the lack of personal communication amongst the pre-service teachers and the practicum supervisors. The practicum supervisors list other disadvantages as well that can be labeled as functionality problems.

The semi–structured interviews also included questions concerning the users' suggestions as to whether to use this technology in the following semester as well. It is worth mentioning that all pre-service teachers and practicum supervisors suggested that the elearning platform should be used in the following semesters and in other classes as well. One of the pre-service teachers said:

> *...it was an amazing experience. I would like to use the platform in other classes as well in the following semesters. I could never imagine that this platform would save me so much time and trouble.*

One of the practicum supervisors said:

> *...using the platform helped me improve my organization and way of functioning during the semester. I can not imagine why anyone would suggest stop using the platform. Some functional changes need to be made but yet, I would be more than glad to use it again.*

DISCUSSION

Through the process of developing an elearning platform for the purposes of the school practicum in initial teacher preparation, some issues emerged that are related to restructuring academic courses so as to take advantage of new internet technologies. Using new internet technologies in academic settings, and specifically to enhance conventional teaching of university courses is something new. Our effort to create an environment for School Practicum that involves new internet technologies proves that time

and effort is required through out the process for the initial development of the platform, for training all staff involved, for evaluating the different procedures separately and together as a whole, for creating scenarios for collaboration, for supporting students through a process of enhanced interaction and increased autonomy and for the platform administration and network management.

If individual student testing, communication and management features are required to support web-based learning, an institution should consider the adoption of an elearning platform having in mind the following:

System Specification
- A dedicated high speed server, for acceptable response time and system usability is required;
- The required performance level of an elearning platform should be specified by an institution and performance loading acceptance trials must be carried out;
- For large concentrated classes, scheduling of sessions is an important consideration with regard to the load on the server;
- A reliable and efficient technical infra-structure is required to support the operation of the elearning platform throughout the life of an elearning platform course.

Staffing
- Course Developers: They are responsible for developing the course and must have in mind that the lead time may be as much as a year;
- Key staff: such as Administrators and Course Developers, should be available for maintenance throughout the entire life cycle of an elearning platform course.

Course Development
- Course Development should be open to team consultation and scrutiny;
- Academic staff adopting an elearning platform should consider the best way to structure their course. In our case it was important to take into consideration the processes followed both by student teachers and their supervisors when engaging in the school practicum.

Training
- Staff development, not only in the functional use of an elearning platform, but also to enable staff to adopt appropriate and effective learning and teaching styles;
- Students are given an introduction to the features/functions of an elearning platform, before the start of the course.

Using new internet technologies to deliver an academic course can be rewarding. As proven by the use of the elearning for the Teachers' Practicum, pre-service teachers spent increased time on task rather than on managing the course and practicum supervisors manage schedule and work load more effectively. Additionally, the use of the elearning platform facilitates communication among students and supervisors and can be used as a tool for continuous professional development of teachers in Cyprus. However, turning a conventional university course into an elearning format should not be considered an easy task, nor an algorithmic process. It is a challenging problem solving process with enormous potential for improvement of the course's design.

The use of new internet technologies in university settings can help transform the nature of traditional university teaching. According to Daniel (1996), higher education institutions have been criticised among others for the ineffective methods used in lecture halls and for the fact that academic communities are disappearing. The use of new internet technologies such as elearning platforms provide both the opportunity for creating on line learning communities and for changing traditional university courses into more effective ones.

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