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Education and Assessment of Civil Employees in e-Government: The Case of a Moodle Based Platform

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***Abstract*—**One of the most important factors for the success of e-government is training and preparing the workforce of the public sector. As changes and innovation in the public sector progress at a very slow pace and more slowly than in the private sector, issues related to human resources require special care. This is because the workforce will eventually seize the opportunities of the technological solutions used in e-Government. Thus, the central administration should provide employees with continuous and focused training not only on new technologies but also on a wide range of subjects and also improve interdepartmental interaction.

To achieve all this, new methods and training tools need to be implemented in addition to assessment of the employees. In this spirit, we propose the development of an educational platform with user personalization features. We propose the development of this platform using Moodle as the basic tool. Incorporating a personalization mechanism is very important since different employees have different backgrounds, education levels, computer skills, or different capability to develop further. Key features of the proposed platform include, besides typical e-learning tools, communities organized in order to exchange experiences and knowledge, groups of users based on certain criteria, automatic evaluation of users and potential self-education and self-assessment. In its fully developed form, this platform can be part of a more comprehensive knowledge management system for the public sector.

***Keywords*—**e-Government, civil employees education, education technologies.

I. Introduction

THE introduction of e-Government in the majority of transactions with the administration has significant benefits for citizens and businesses in recent years. The procedures and tools used by the administration are changing and transforming in order to support the project of e-Government. The technological solutions implemented with the help of information and communication technologies require special familiarization and skills by officials that work for the administration. So for the further successful implementation and introduction of e-Government human factor and its adaptation to the new conditions become significant. A key tool in this direction is continuous and lifelong education of civil servants.

The training of officials is one of the most important issues to be faced by the administration of an organization. We could use either classical education methods in classroom organized departments or innovative learning methods with the help of new technologies that do not require the physical presence of the learners and the instructor in a particular place. Particularly interesting for us is the investigation of distance education and e-learning capabilities of civil servants. And this is because the classical method of physical presence in the area of education, require special organizing at the premises and at times training as well as support to provide resources both financial and human.

The e- training can contribute significantly to reducing the resources required as in increasing the participation and interest of the trainees' employees. In the following paragraphs we analyze the advantages of e-learning and present the moodle as a means for making the e-training program with an emphasis on innovation and personalized education.

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II. Current Situation in the Education of Civil Servants in Greece

Under current law (Civil Servant Code as applicable), training of civil servants aims to provide the necessary expertise for the efficient and effective performance of their duties. Starting from the moment of their entry into the public service and continued throughout their term of office at this. There are seven basic educational and training categories concerning civil servants:

1. Pre-introductory training
2. Introductory training
3. Service training
4. Specialization
5. Promotional training
6. Retraining
7. Postgraduate Education

Public educational providers responsible for the formulation and implementation of education policies

- National School of Public Administration
- Training Institute
- The Directorate of Education in the Ministry of Administrative Reform.
- Units of Education in the Ministries.
- Ministries' Schools.

The training of employees in the above bodies is most often in the form of seminars for a few days or weeks, demanding the physical presence of trainees and trainers. In the process of conducting seminars, the education directorates, the providers who perform the seminars and the trainees' servants

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are all implemented. In this process there are some dysfunctions among which we mention the following:

- When an organization must train its employees on a particular issue, the seminars must be planned in such a way, so as not to cause any dysfunctions in the organization itself by the simultaneous absence of employees. On the other hand all employees must be trained in a short time on this issue so that there will be no employees with different levels of knowledge.
- The planning of seminars is not always apropos to the needs of each organization or trainee. For example, when changing a basic law that covers all of services and training needs are enormous, some employees will be trained much later than others
- Due to the large number of employees, few manage eventually be trained according to their actual needs and the time period necessary.
- Seminar participants belong to various departments so that there are different expectations and needs to be covered.
- All employees who participate a seminar do not have the same skills or the same knowledge. So education outcomes are not as expected for all participants.

III. E-Training in E-Government

Public administration in recent years faces administrative reorganization efforts in the e-Government. The change in operational practices and organizational structures are always intertwined with the familiarization of employees with the changes planned. The current methodology for the training of employees is insufficient and needs supplementing with solutions coming from the field of e-training. Without doubt the administration would benefit from such a synthetic approach, both in terms of time savings, and in relation to saving money.

As e-Government uses technology to provide services tailored to the needs of citizens following new procedures so the e-training uses information systems to support and transfer knowledge, increasing the benefits and effectiveness of traditional models of learning [1], [6].

The benefits of e-Government from implementing e-training system are numerous. Relevant examples include:

- Reduces the obstacles which employees often face in various areas of administration, in an effort to gain on an equal footing high quality education and support services that integrate e-Government technology
- Assists in developing tools and applications and strengthens the strategy of e-Government and changing work culture.
- Diffuses knowledge and makes it continuous and timely.
- Supports transmission of skills and knowledge through giving access to specialists and the possibility of cooperation and exchange of views (e.g. through community-forum) among employees.

The distance learning is the key factor for the successful implementation of e-governance as it changes the way employees gain access to knowledge and skills, reduces barriers between them for access to high quality information and helps organizations to respond quickly in an environment of change [8]. This is accomplished by making learning more accessible (in time, spatially and immediately whenever requested), continuous (formal or informal and lifelong), relative (not occasional but when necessary, exciting and personalized), collaborative (with access to specialists and in cooperation with all employees having the opportunity of interaction) [4], [5].

So we are able to achieve results faster, increase productivity, change work culture, get comparative advantage and measurable results.

The e-training helps to transform the administrative functions of public administration and affects the training of citizens, the optimizing of service delivery and the development of human resources.

Major challenges for the future is the implementation reward systems learning progression, the acquisition or development of remarkable electronic content distance learning the selection of the best tools and the introduction of reliable infrastructure upgrading, the targeted investment for measurable results and the dealing with matters of administrative organization and culture of services.

The modern trend leads them today to follow the strategy of blended learning, combining traditional education programs with mentoring, coaching collaborative tools and systems of knowledge management.

IV. The Wiki as a Means of Education and Knowledge Management in Public Institutions

With the concept Wiki usually is meant a website that allows users to add, remove, or edit content, very quickly and easily, without having made compulsory registration. Thus, it facilitates cooperation of many individuals for writing a project. What actually makes a wiki system is to simplify the process of creating HTML pages and record each individual change that occurs over time, so that at any time a page can be returned to any of the previous statements.

Advantages:

- Anyone can participate in the drafting-editing of content
- Easy to learn and use
- Saves time in obtaining and renewal of content
- Possibility of cooperation on the same project of people located in different parts of the globe
- The software keeps data for any amendment made restoring a previous edition an article is a simple process
- Opens access to online editions for users with limited technical knowledge
- The wiki has no predefined structure - thus is a versatile tool that can be used for wide range of applications
- There is a wide variety of open source software wiki, so the cost of the right of use should not be an obstacle to the establishment of a wiki from a foundation

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Disadvantages:

The characteristics that under some conditions are considered advantages under different conditions may be drawbacks.

- Anyone can modify the content and this can be excessive discretion for some applications, for example when it comes to confidential documents. However there is the possibility of regulating the access users have to the content.
- The wiki is vulnerable to spam and vandalism if not make the necessary adjustments and protection. handling
- The flexibility of the structure of a wiki can mean that the information is unorganized. When the size of a wiki gets bigger, the community plans and manages its structure collectively.

Benefits arising from the use of wiki as a learning tool:

Links-Connections

- Develop greater linkages between the new and the older knowledge allowing learners to create structures for information and ideas.
- Trainees use the functions of synthesis and evaluation constantly and therefore when working on a wiki.

Creativity

- Development of creative skills, especially the skills of processing and fluency. Development of creative flexibility by accepting the amendments of others.
- Encouragement of 'elicitation' ideas (a type of creative process and analytical thinking: if applies X what applies then for Y;).
- Introduction and strengthening of the idea that a creative work is never "complete".

Commitment

- Increase the commitment of all learners.
- Trainees no longer hold the passive role of 'consumer' that receives the information presented (thus lose interest and ignore it) as factors of the wiki answer, they make changes and improvements.
- Projects that are in a very advanced stage it is not necessary to complete.

Interpersonal Relations

- Develop interpersonal and communication skills, particularly achieve consensus and compromise, in an environment where the result motivates interpersonal problem solving.
- Develop the essential skills of teamwork.

Writing

- Improving the capacity of revision and review.
- Increased flexibility in finding alternative ways to express the same meaning.
- Adapting to an environment of more and more authentic audience.

Ways of using in public administration

1. Informal learning (informal learning) - The wiki helps employees to search and share the knowledge that has been developed within the organization, thus enhancing organizational performance.
2. Broaden communication among employees, both in the training process and during the performance of their duties.
3. Average feedback to applicable procedures. Employees can benefit from direct communication that provides a wiki.
4. Scheduling management actions
5. Channel of communication and consulting objectives of management.
6. Means of communication and consultation with citizens and businesses.

V. Suggested Wiki Implementation through Moodle

The Moodle (Modular Object Oriented Developmental Learning Environment) is free educational content management software. Mainly used for the purpose of Asynchronous eLearning. However it can complement in the conventional education in various ways. Through the graphical interface of Moodle, which does not require specialized knowledge to build the course and its follow-up, the teacher can present the subject in a way that is interesting with the introduction of educational material in various forms, assign tasks to students, communicating with them through asynchronous tools or modern communication and evaluation of the performance of trainees [7]. Main features are communication and collaboration and tracing of the activity of the learner on the platform [2], [3].

In this paper we examine the opportunities given by the moodle to create wiki in a course. So typically we created a page in moodle for training civil servants and for the course Civil Servants Code we created a wiki as an activity to develop relevant issues (Figs. 1-3). From our experience we note the following points:

- The administrator and the instructor of the course have the ability to register each trainee in the wiki.
- There are several options to access the wiki. Depending on the setting and whether or not groups, one student may have access only to its own wiki or to those of other students or groups.
- All registered users have the ability to process and changes to the original publication of the wiki depending on the settings of the administrator or trainer. They also have the ability to access files on hanging.
- There is the possibility to monitor the successive changes or additions to publications (history) as well as the individuals who have made them.
- There is a possibility to restore the page to a previous state in case where there have been undesired changes in a page.
- It is possible to search topics by some keywords, tool extremely useful if the content of the wiki is bulky.

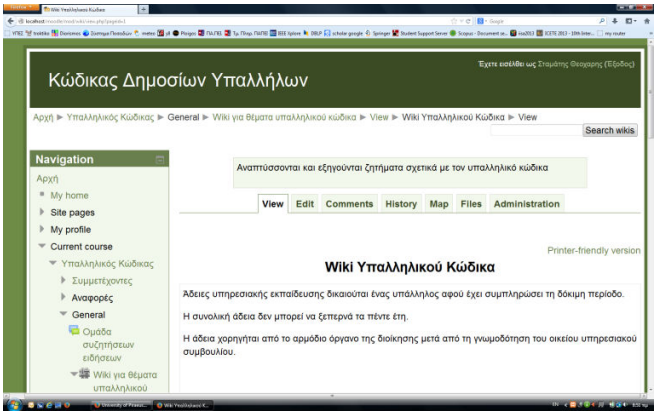


Fig. 1 Moodle page for training civil servants

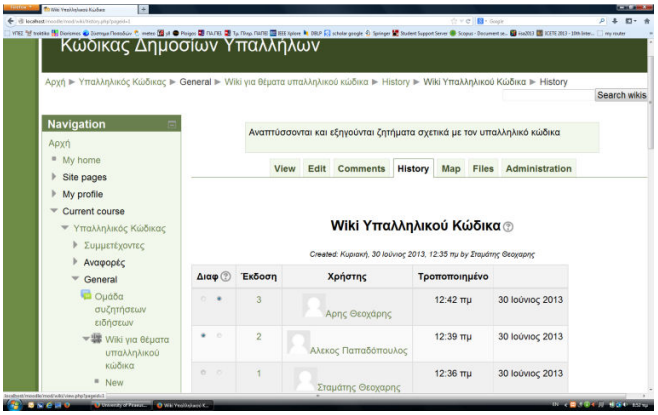


Fig. 2 Wiki page created within Moodle

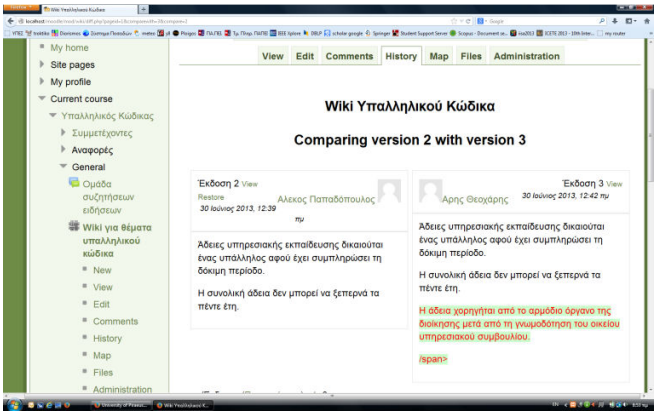


Fig. 3 comparing versions of Wiki pages created within Moodle

VI. Conclusions

In conclusion, we could say that the moodle wiki is a very useful and handy tool that promotes the concept of e-training. Requires no special familiarity with the environment, especially from the part of the trainee. It could be used also in cases other than employee training.

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