EFFICIENCY IN THE USAGE OF E-LEARNING MOODLE IN THE PROCESS OF EDUCATION

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ABSTRACT

The process of introduction and effective usage of the e-learning system Moodle in the High School "Dobri Daskalov" in Kavadraci is represented in this study. There is a short summary of the results and the advantages of the usage of a system like this in the beginner stage and the results of the usage of Moodle as part of the education process in this school. Also, certain positive characteristics and obstacles that have appeared in the implementation of the system and the effort of the teachers from this school to affect other teachers from the primary and high schools in R.Macedonia to use this tool or tools similar to this, no matter whether they will do that in the school by themselves or will be helped by the Ministry of Education, are stated.

I. INTRODUCTION

Municipal High School "Dobri Daskalov" Kavadarci is one of the three high schools in the Municipality of Kavadarci, with 1000 students and 60 teachers. Many students from this school constantly take part in the competitions in the country, showing excellent results and represent our school and our country abroad. In this time of fast technological development, globalization and information revolution, the realization of the projects within which all the classrooms were equipped with computers and internet access, a group of enthusiasts in this school tried to implement this kind of e-learning and to be one of the first among the primary and high schools (since all the Universities in the country are using it) that have decided to do this, with the aim of improving the teaching quality and certainly following the needs of improving the motivation of the students and an effort to make them start using a tool that will more or less distract their attention from the social networks, since it is of closed type and with full control over students' activities, recourse sharing etc. At first, before the introduction of this tool, the school had its own joomla website where all the events and students' and teachers' achievements were posted, but the usage of a system like Moodle emerged from the need of massive sharing of recources, communication with groups of students as well as active participation both of the students and the teachers. The e-learning system Moodle can be approached on the address
http://moodle.dobridaskalov.edu.mk.

II. MOTIVATION FOR ONE STEP FORWARD

For every institution, organization or individual, accepting the information revolution is a matter of survival. Those who are unprepared or simply ignore the changes, will stay only speechless witnesses of all the technological improvements.

One of the main teaching priorities in the education is the introduction of IT in the teaching process. Within the project "computer for every student" all primary and high schools in the R.Macedonia in the first stage were equipped with computer for every student, and in the second stage of the project it is expected a virtual library to be implemented, to develop the teaching contents in digital format and development of e-learning systems. The aim of this project is to supply efficient implementation of ICT in the education in Macedonia, to get closer to the world and to reduce the digital gap that happens because of physical inaccessibility i.e. lack of recourses or lack of skills.

One of the priorities of the annual school programme of the HS "Dobri Daskalov" is continuing computer education for the teachers for better quality teaching. This is a result of the need of faster acceptance and introduction of IT in the teaching process, but also more effective usage of already installed computers in the school, all that during everyday realization of the teaching process. Thus the programme involves constant training for basic and advanced usage of IT in the teaching process in our High School. Our final goal is the teachers to implement computerised teaching process that will include all the acquired knowledge and skills from all the trainings so far, but also constant refreshment of all the knowledge and skills by the means of new trainings for active and computerized teaching. Permanent improvement i.e. lifelong learning is an imperative of the education today.

Experimental and non-obligatory introduction of the e-learning system Moodle in the High School, by a group of teachers – enthusiasts, is an act which we consider will take our school one step forward in order to achieve better teaching. Students, in their further professional development acquire the necessary knowledge, skills and competences in a new, creative and more effective way.

Greater use of IT in the education enables better surveillance in the teaching process, promotion of curriculum, faster access to information. Today, in education, the work of teachers can't be imagined without using computers referring to handling the pedagogical evidence, class preparations, the teaching process itself as well as an instrument and source of information.

The motive for this research came from the need to find all the drawbacks of the usage of IT in the teaching process and also to offer goodwill solutions to make IT available in long term, to distinguish the achievements so far and to make them visible and applicable in long term and an individual useful practice of a certain school to be systematically incorporated and shared with the others.

If the school has a system for constant maintenance of IT, the teachers are continually trained for advanced use of IT in the teaching process, the Ministry of Education and Science, the Bureau for Development of Education, constantly enlarge the fund of education software and e-schoolbooks than the installed computers in the school will be effectively and efficiently used in the realisation of the teaching process.

III. USING MOODLE IMMEDIATELLY AFTER THE IMPLEMENTATION

The idea to learn a tool like this was accepted well from all the other teacher, and thus in order to introduce all the possibilities that Moodle offers to all the teachers, two different trainings were conducted, with 15 teachers in each who were also trained to use additional tools that they can use in their courses for ex: Dropbox, Youtube, Slideshare, Scribd, Issuu etc. these trainings were organized in 5 active workshops.This approach to communication with the student in and out of the classroom was new and required a certain amount of time to check whether it will work and to what extent it will be used.In the beginning, with help from IT teachers, teachers mamaged to create their courses and to start uploading their material and to fill the existing courses as shown in figure.

Figure 1. Contents from Moodle Informatics course

This is how the results of using Moodle became visible. On the other hand students started logging on more and more often, to look through the materials posted by the teachers and download them, and it was also proved that they didn't need any professional training to navigate through the system. The only thing that they needed to know was the entry key for a certain course that was given to them by the teacher.Beginning results were satisfying and within the expected frames of how to continue the work on Moodle.Teachers were satisfied because Moodle enabled them to share the presentations that they have presented during lessons, to motivate the students to use computers not only to pass time logged on the social networks but also to enlarge the interest of the students in the processing of the new material, revision of previously learned, improving the creativity with an opportunity the students themselves to take part in the creation of the studying material, through presentations, games etc. Positive results of the use of Moodle were also brought by the possibility the teacher to create organizing in archiving knowledge basis and data basis for simpler menaging during the year and certainly in the years

that follow.Students accepted Moodle willingly because this system enabled them to acquire additionally processed contents from the teacher, material for the subjects for which they don't have appropriate textbooks and of course modern working conditions.Only 250 students and about 20 teachers were involved in the beginning of the project in the school year 2010 / 2011. Later, in the 2011 / 2012 school year more students and more teachers were involved.

IV. MOODLE AS PART OF THE TEACHING PROCESS IN MUNICIPAL HIGH SCHOOL DOBRI DASKALOV

The usefulness and the visible results of the e-learning system Moodle was noticed by other teachers who expressed their interest and applied to be part of Moodle users.

In the school year 2012 / 2013 e-learning system Moodle, in Municipal High School "Dobri Daskalov" Kavadarci has 1411 users taking part in different courses.

Students and teachers cooperate in the selection of Internet accessible matherials, since it is more than clear that it is essential to direct the student to reliable sources and information that are useful in learning the curriculum units.

Besides the assignments that teachers posted for the students and the interesting approach to on-line examination and feedback, the teachers started using the module for making quizzes. Using this modul several teachers made tests for the students, some of them only trial, some of them with real examinations for the students, and some of them used the quizzes in the final part of the lesson in the reflection phase to make it more interesting, nonusual revision of the contents from the new unit for the lesson.

Figure 2. Examination of given assigment

Any new idea in any working field always brings certain obstacles that need to be removed. In this case we faced the instability of the internet connection because one network connects sixteen classrooms especially when it comes to test with the use of quiz module. That's why we decided to provide the two information technology classrooms with stable intrnet connection – cable internet used by the teachers in the administration part of the school, and in this way the problem was solved.Teachers who decided to conduct Moodle test organized trial tests first because it was clear that students will have to be introduced in this completely new

way of testing and all the difficulties and obstacles will have to be removed.The need to prepare the classrooms for this kind of tests appears due to the fact that with the changes of the Law on primary and Secondary education external exams are planned in order to evaluate the students' achievements, which is performed in electronic way, similar to quiz modules in Moodle. Figure 3 and 4 represent the results from the conducted testing using the Moodle system on second year students in the area of information technology. It is evident that in the first test, when the electronic testing was conducted for the first time, as shown in picture 3and the results were worse and there weren't any students with more than 85 /100 points. Students realized the mistakes they had done and mostly they were of technical nature. Due to this, upon agreement with the teacher they had another testing with questions from the same topic.
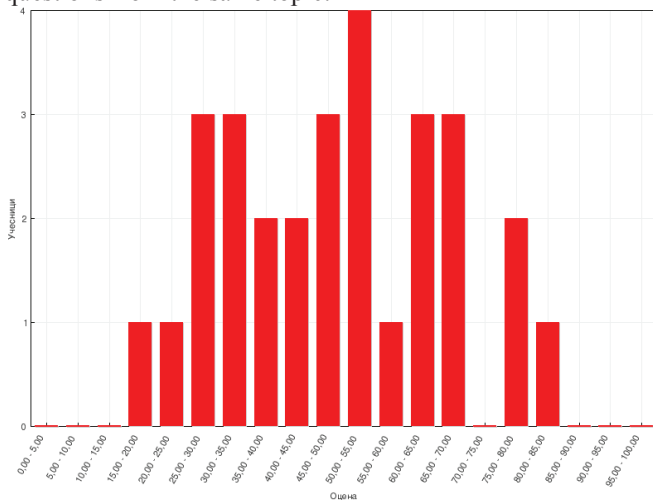

Figure 3. Results from the first test for the students with the use of quiz module

Figure 4 represents the second test where we can notice that after removing certain technical drawbacks while answering the questions, the results are much better.
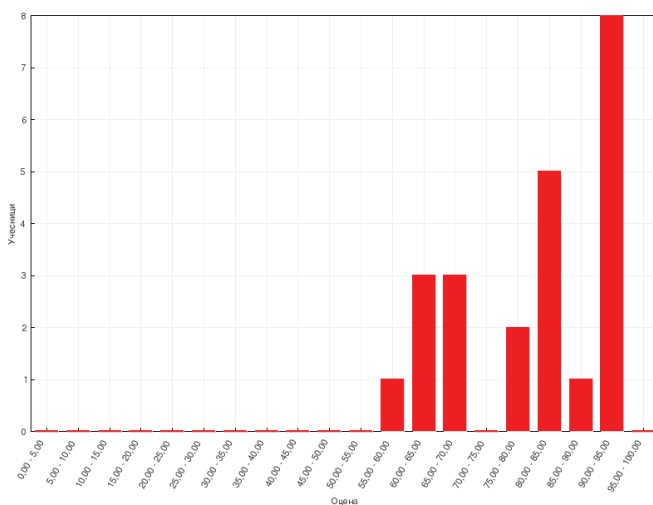

Figure 4. Results from the second test for the students with the use of quiz module

The common attitude of all the teachers included in the project Moodle in our school, is that this tool helps the learning process a lot and it is necessary more teachers to use it from time to time or all the time when working with students from primary or secondary schools.

V. QUESTIONNAIRE WITH TEACHERS AND STUDENTS WHO USE MOODLE AS A SUPPLEMENT TOOL IN THE TEACHING PROCESS

We conducted a questionnaire with the teachers and the students who use Moodle as a supplement tool in the teaching process.

The students questionnaire was conducted on a sample of 105 students of all the student's years and 6 teachers who are using the system for e-learning Moodle.

The received results show that the teachers have a wise and they use the system in the teaching, and the students in a way, are more motivated to look through the set materials ad to take part in the discussions within the courses.

A. Questions from the students' questionnaire

All the answers on the questions are on a scale of 1 to 5.

1. How often do you use the system for e-learning Moodle?
   1 (0%)   2 (19%)   3 (10.5%)   4 (34.3%)   5 (53.3%)

2. Do you consider that the help with the e-learning Moodle the quality of teaching is improving?
   1 (0%)   2 (2.9%)   3 (43.8%)   4 (24.7%)   5 (68.6%)

3. Does the system of e-learning Moodle offer all the necessary resources that you need in learning the teaching material?
   1 (1.9%)   2 (8.6%)   3 (8.6%)   4 (50.5%)   5 (30.5%)

4. How often do you log in the system Moodle?
   1 (0%)   2 (1.9%)   3 (7.7%)   4 (59%)   5 (31.4%)

5. Do you take part in the discussions (forums)?
   1 (7.6%)   2 (11.4%)   3 (3.8%)   4 (30.5%)   5 (46.7%)

6. Do you consider that for certain topics, it is necessary to have e-testing more often as a replacement for the standard testing.
   1 (2.9%)   2 (0%)   3 (9.5%)   4 (41.9%)   5 (45.7%)

7. Do you use Moodle at home?
   1 (5.7%)   2 (7.6%)   3 (18.1%)   4 (30%)   5 (38.6%)

8. Do you want to continue to user Moodle later on your university studies?
   1 (5.7%)   2 (7.6%)   3 (18.1%)   4 (40%)   5 (28.6%)

B. Questions from the teachers' questionnaire

1. Was it necessary after the held training for use of Moodle to have an extra education for its usage?
   1 (0%)   2 (0%)   3 (0%)   4 (33.3%)   5 (66.7%)

2. Is it necessary for the students' to be taught hoe to use the system for e-learning Moodle?
   1 (0%)   2 (9.5%)   3 (17.1%)   4 (36.3%)   5 (37.1%)

3. How often do you use the system for e-learning Moodle during your class?

    1 (0%)   2 (0%)   3 (66.6%)   4 (16.7%)   5 (16.7%)

4. Do you think that your students need such a system of e-learning?

        1 (0%)   2 (0%)   3 (0%)   4 (0%)   5 (100%)

5. Do you give your students homework assignments on the system Moodle in the part assignments and you give them back the information feedback?

      1 (0%)   2 (0%)   3 (0%)   4 (16.7%)   5 (83.3%)

6. Do your students use the resources that you set on Moodle?

      1 (0%)   2 (0%)   3 (0%)   4 (33.3%)   5 (66.7%)

7. Are you satisfied with the way of storing the data and creating a database in your subject?

      1 (0%)   2 (0%)   3 (0%)   4 (0%)   5 (100%)

8. According to you, how successful has this e-learning Moodle been implemented in your school?

    1 (0%)   2 (0%)   3 (0%)   4 (0%)   5 (100%)

VI. Summary

The need of constant involvement of ICT in the process of education is described in this study, in this case with the introduction of e-learning in the Municipal High School "Dobri Daskalov" Kavadarci. The paper identified the factors affecting the successful introduction of ICT in the teaching process and they are found crucial for overcome the unsatisfactory state of ICT in schools: ICT equipment, equipment maintenance, continuous training and motivating, raising funds for ICT.

REFERENCES

[1] VandenBos, G., Knapp, S., & Doe, J. (2001). Role of reference elements in the selection of resources by psychology undergraduates [Electronic version]. Journal of Bibliographic Research, 5, 117-123.

[2] VandenBos, G., Knapp, S., & Doe, J. (2001). Role of reference elements in the selection of resources by psychology undergraduates. Journal of Bibliographic Research, 5, 117-123.

[3] Pop Angelova, Nevenka and Zdravev, Zoran (2011) *Introduction of ICT in the teaching process - a successful story of The High School "Dobri Daskalov" from Kavadarci.* In: VI International Balkan Congress for Education and Science: THE MODERN SOCIETY AND EDUCATION. Faculty of Pedagogy "St. Kliment Ohridski" – Skopje, Republic of Macedonia, pp. 1111-1117.

[4] Krsteva, Silvana and Dimov, Gorgi and Zdravev, Zoran (2011) *Implementation of E–Learning on UGD through Basics of ICT Course.* In: VI International Balkan Congress for Education and Science: THE MODERN SOCIETY AND EDUCATION. Faculty of Pedagogy "St. Kliment Ohridski" – Skopje, Republic of Macedonia, pp. 1065-1071.

[5] К.Симончев.(2006). Употреба на Софтвер со отворен код во училиштата; Стандарди на меѓународното здружение за технологија во образованието – www.iste.org

[6] СОУ Гимназија ДобриДаскалов (2010); Годишна Програма за работењето на училиштето во учебната 2010/2011 година- www.dobridaskalov.edu.mk.

[7] Систем за е-учење Moodle на СОУ Гимназија Добри Даскалов - Кавадарци http://moodle.dobridaskalov.edu.mk.

[8] "Best Moodle modules & plugins", http://www.moodlerific.org/2009/06/05/best-moodle-modules-plugins/, Jun 5, 2009.

[9] N. Parmar, (2010)"Acting Moodle Operations Manager & Learning Technologist, Moodle Development Plan 2010", *http://www.bath.ac.uk/learningandteaching/themes/e-learning/moodle - development-plan-2010.*