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A TRANSVERSAL MEHTOD OF TEACHING USING MOODLE

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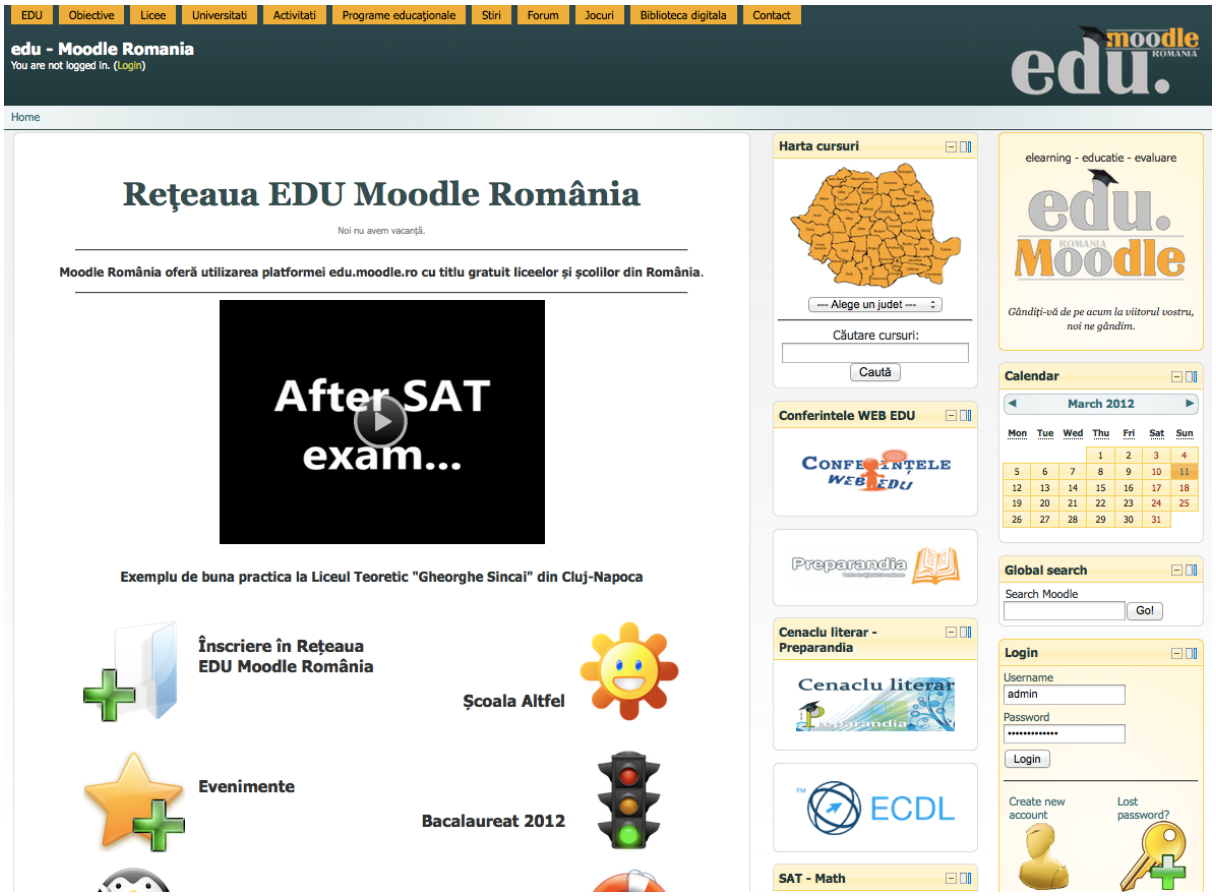
***Abstract**: Lately our society is based on huge amount of informations. Handling, storing and connecting the information is more and more demanding to become a good teacher or trainer. The crossing domains of knowledge shares a lot of data that has to be linked together to provide a good process of teaching and learning. Technology comes in our help to apply pedagogical methods using e-learning platforms, games, role play, scenarios, interactive communication between teacher and pupils. Moodle offers may ways of communication sincron and asincron to have a complete cross section scheme of data shown as a map. Using Resources and activities matching the study of a specific subject the teacher applies his own perspective on a lesson, by interaction with the students and students among them the process becomes transversal. In this scenario the main pon is the teacher. First step is establishing the target group: - we chose the pupils between 12 to 18 years old - they have experience in using the computer - knows the principles of communication in social networking Second step is organizing the information: - for this specific group is important computer science, math, geography, history, foreign languages, etc. Third step is applying the scenarios: - using initial questionnaires - evaluation / quizzes - workshops - virtual classrooms - forums - online social games - offline activities - assignments - role play The result in applying this method will reveal the necessity of using cross domains knowledge, technical and human, to engage pupils in learning activities. The authors applied many methods in the teaching process using Moodle as a complex tool has increased the interest of the young generations. Moodle as a social constructivist platform uses 100% the engagement of human touch.*

***Keywords:** e-learning, moodle, pedagogy, transversal, teaching and learning technologies*

I. THE NETWORK

EDU Moodle Romania [http://edu.moodle.ro] is network of schools meant to be a component of knowledge society, a knowledge fusion platform and a network of schools tied together by the urge of learning more one from another. Moodle is based on a constructivist and social constructionist approach to education, in which learners are encouraged to construct their own knowledge, not no copy it from a teacher or a book, by testing ideas and approaches based on their prior knowledge and experience. Moodle has typical features for e-learning platforms, such as assignment submission, online calendar, wiki, discussion forum, online quiz, instant messages, online news and announcement, grading, files downloading. There is no competition among learners for recognition,

but negotiation and cooperation. Moodle offers a number of tools allowing the various users of the system to effectively and efficiently communicate and to share knowledge. Constructivism is a complex concept, which involves the epistemological, the psychological and the educational beliefs. Each school has its own socio-economic and technological circumstances and we tried to understand it better before implementing this new pedagogical ways of teaching.



http://edu.moodle.ro

Technical information

- Number of courses (716)
- Number of users (6891)
- Number of role assignments (10937)
- Number of posts (987)
- Number of questions (1069)
- Number of resources (874)
- Average number of participants (782)

II. MULTIMEDIA AND IT&C

I learned about e-Learning platform Moodle training course at a Comenius, which I attended in 2010. From the beginning it seemed a very useful tool, which promised much for both teachers and students. Therefore, we sought another Comenius training course, where better to learn what you can

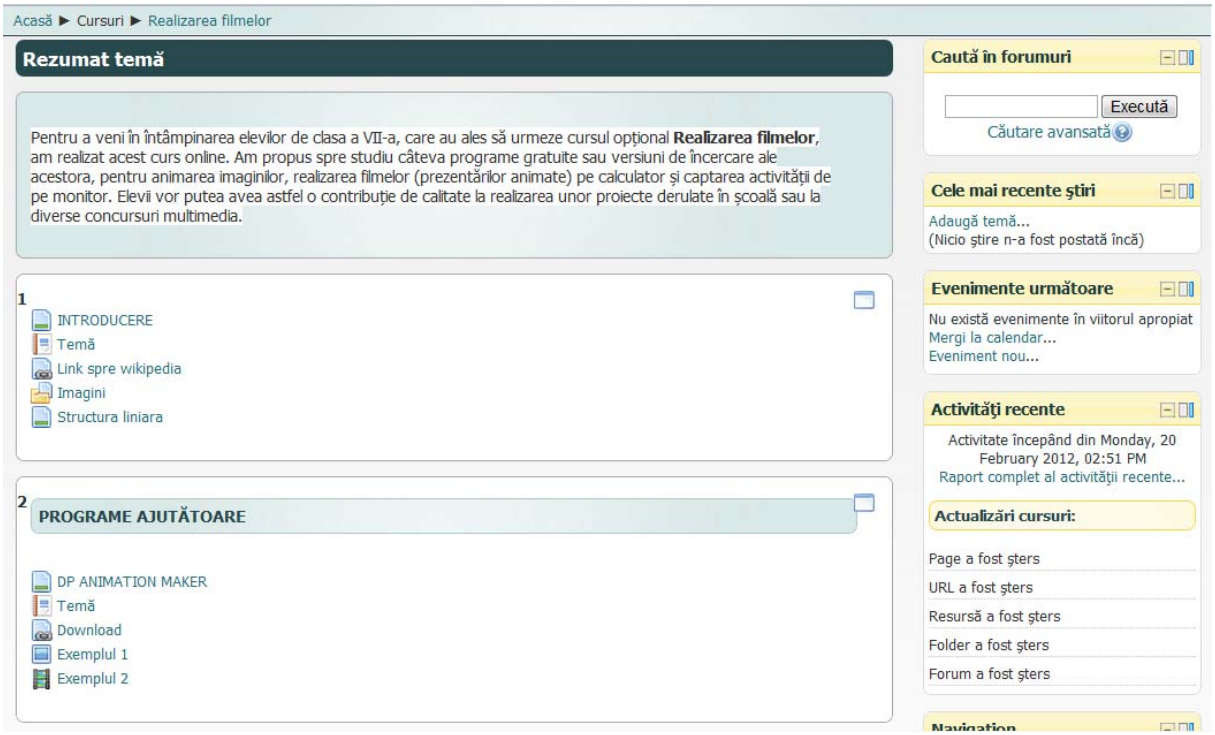
do with Moodle. I turned the country faced the problem of finding a car to my host server classes. After several frustrating attempts on servers primarily display ads, my course is somewhere at the bottom, I had the chance to learn about Moodle Romania. So I began a fruitful collaboration, which I hope to take as much time.

Edu.moodle.ro server we have created over time courses for almost all my classes. A big advantage is that classes that are created last year, you can use this year. Supplement them with new or, where appropriate, may hide some issues previously created, which still do not want my students to have access.

A special section I dedicated a student can not participate in the laboratory and often either the course because, being in a wheelchair can not climb stairs or get to school when weather conditions are favorable. He should indicate here what to read, make available the theory, solved problems, including conduct online classes, in which we see and hear is the webminars, agreed.

All webminar as was done in high school and preparing for the previous school year, attended by both students of mine and others across the country.

My colleagues from other specialties must not think that only computer teachers can use moodle to work with students, new you are privileged to hold class in a computer laboratory. Not at all. Due to the large number of students and the small number of good computer, I can not use moodle to school than few hours. But resources and other activities established there to serve and be accessed from home, not only at school.



Thus, homework, both IT and ICT, can be proposed in moodle. Students are working on computer and upload them each in his account. Notes that students receive on these issues in digital format and comments they make about the way they worked, maintained automatically and can be viewed both by the teacher (for the entire class) and by student (those which are personally addressed).

Online tests are perhaps the best known digital tools. In Moodle we randomly mixed the test questions and its responses to each item, we can work in that time we, for a period of time, we can even make available a list of IP addresses corresponding to a particular laboratory schools. I've used many times, for an initial assessment at the beginning of a unit, and the end time to check that they understand and remember from teaching my students, or at the end of a unit. Eleviimei claimed is online both laboratory and home, for their further training, or simulation of a thesis or work control.

Online courses were used when, for objective reasons, I could not get to school. In these cases I carefully prepared lessons, proposed themes, worksheets, examples for students. In this way a substitute teacher and was much easier, and I had a sense of duty fulfilled. A similar way of working can be used when school is closed for various reasons (strikes, epidemics, weather conditions).

III. PHYSICS

The material is an example showing how to apply a combined experimental and real-mode virtual experimental evaluation platform provided by Moodle

For teaching the author has used both real experiment in the laboratory of physics and materials with excellent graphics package offered by eContent, ie virtual experiment on the evaluation and have used resources from the Moodle platform. [1]

Teaching with AEL Teaching can be done since some experimental and then fixing system using knowledge provided by AEL or AEL reverse pass from the experimental verification of those seen in virtual lessons. Last version that allows the teacher to efficiently convert these experiments in laboratory work can later be recovered by assessment systems. This article was built on this version using a symbiosis between AEL and Moodle platform. The case was a chapter specifically addressed fundamental physics, namely producing alternative current. For the automatic registration of adatelor using a laptop and MAS_View meter 345, with sotware VER 1.1 [2]

The following figures are presented with material producing AC voltage provided by AEL device Figure 1 and Figure 2 practical laboratory experiment.

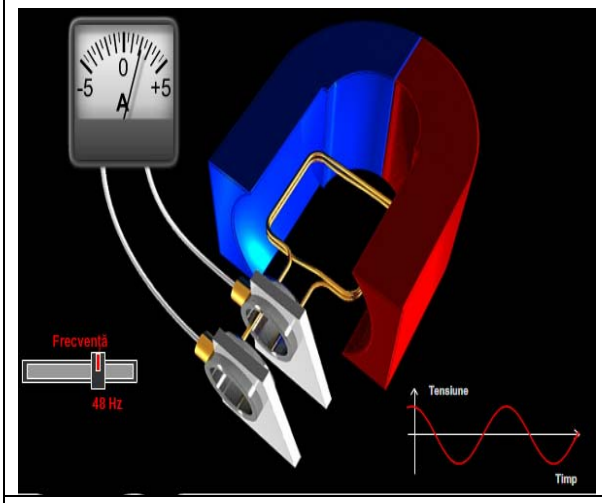


Figure 1

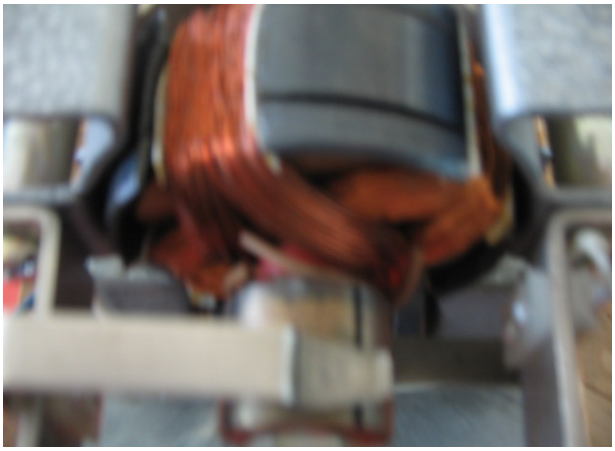


Figure 2

Figure 1 Figure 2 Image from lecture AeL The laboratory practical

Theory lesson is well planned and beautiful animation showing the development of phenomenological.

Figured in Figure 1 is visual recognition for the real device components in Figure 2. In the second stage of activity is the correlation between concepts and devices presented by the virtual devices that teaching laboratory experiment is performed.

Laboratory production of alternative current [3]

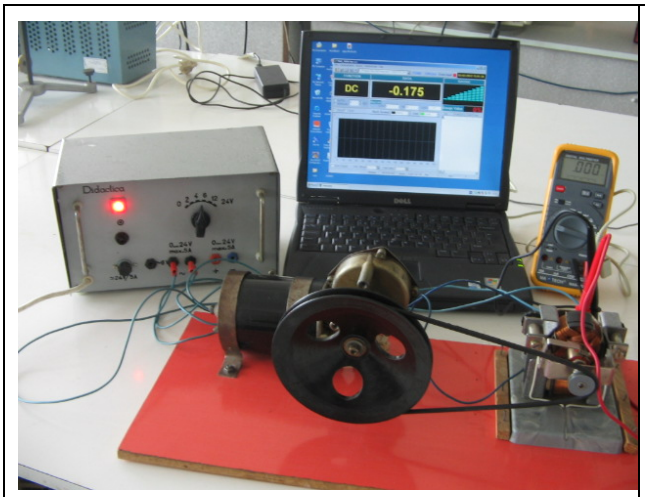


Figure 3. set with the experimental data acquisition

Figure 4. Moodle - lab and test

The experiment is as follows: The phone is mounting experimental device shown in Figure 3 is completed with a laptop and a digital multimeter. The system is powered at constant frequency but different from student to student. Changing speed is achieved by changing the supply voltage motor drive.

Each student will use the system with certain rotational speed. With the table registered by MAS VIEW345 student will have to resolve requirements and laboratory work will be to determine sizes: Emax, Imax, and instantaneen values for voltage, current that moment of time. Individual tables with experimental data are uploaded to Moodle to link properly to the laboratory where the work is accessed as a teacher and class ..

Laboratory work is loaded again solved by students in a Moodle default link. Assessment is in two distinct ways, namely:

a) by viewing each file with the laboratory work done by students by projecting them to the class

b) by applying a specific test work conducted by teachers with their activity as shown in the image of Fig. Four. Questions were designed so that even experimental check. Thus it is made fit deeper knowledge. It is true that work in this way involves training students in communications technology, but it turned out that way.

1 http://www.moodle.ro

2 Technical Paper Mas_View 345 07 03 2012 15 30

3 I Bunget Compendium of physical, Scientific Publishing House Bucharest, 1971, pp 542-556

IV. SAT MATH

About e-learning and SAT in High School "George Sincai" in Cluj-Napoca

The Partnership Project "Intternationale Dimensions in Mathematics" at the initiative of the Department of Mathematics was held (on 6 March) a simulation of the SAT exam. Have been involved students in grades X, XI and XII of the seven high schools in three counties, namely:

- High School "Avram Iancu", Cluj-Napoca, CJ
- International School of Cluj, Cluj-Napoca, CJ
- National College "Andrei Muresan" Dej, CJ
- National College "Silvania" Zalau ", SJ
- National College "George Sincai" Baia Mare MM
- National College "Emil Racovita", Cluj-Napoca, CJ
- High School "George Sincai", Cluj-Napoca, CJ

This activity was made possible by using e-learning platform Moodle - Romania, [http://edu.moodle.ro] with the High School "George Sincai" is a collaborative partnership last autumn.

There are several dimensions / perspectives from which it can analyze the activity, such as for example:

interest of students / teachers on the SAT exam that is used for selecting those who enroll in American colleges or universities structure, format and level of problems dificulltate type SAT, compared with those of similar level national exams proposed in Romania similarities / differences in the mathematics curriculum in U.S. and Romania

Platform for e-lerning from Moodle - Romania has many features, of which I used (with this occasion):

- Posting documents to familiarize users with the problem SAT exam - Math (SAT_Romanian version_2011-12.pdf, The SAT Mathematics-Review.pdf)
- Forum news
- Q & A chat about the SAT Math Exam Chat
- BigBlueButton application for web conferencing
- Preparation for simulation tests: SAT Practice 1/2/3
- Simulation tests: Mini SAT Math Test, SAT II Math
- Moodle & SAT-Math questionnaire Questionnaire

Analysis of the results posted shortly after completion of simulations, coupled with survey responses / questionnaire administered on the same day with simulations reveals interesting findings available to everyone accessing the home page of the site and there http://edu.moodle.ro Math SAT link March 6. No results themselves are important but remember that a significant number of students (214) wanted to be judged / its own assessment against the requirements of admission to university in the U.S., and have proved as fast, objective and can by transparent mains as e-learning evaluation.

Please note that not insignificant and that the users / beneficiaries of this activity, financial costs are zero, because Moodle platform edu.moodle.ro Romania offers free use of high schools and schools in Romania.

In conclusion I wish to emphasize that the use of e-learning in education, is, among others, to accept the benefits of technological / computer giant in recent years to capitalize on digital literacy for individual educational remarkable progress our students, to put in facilities amount we have all the school and each one home.

Last but not least be noted that use of e-learning system enables interactive learning, nonlinear and asynchronous. The work briefly described above could mean an auspicious start to the High School "George Sincai" and beyond.

V. CONCLUSIONS

Moodle can be also used for online collaborating between schools. Many major educational institutions were experimenting with Moodle, developing a large number of professional learning committees. The core tools are file sharing, discussion areas, collaborative documents, meeting scheduling, personal connection, forums, wikis, calendars, chat. Teachers in small schools often work in isolation. Moodle sites can overcome this problem to some extent. Teachers have the opportunity to share ideas with a large numbers of other teachers.

Moodle offers a number of tools allowing the various users of the system to effectively and efficiently communicate and to share knowledge. We can use it for streamline various communication needs related to the educational program, to disseminate information in a transparent manner and to answer the students' questions, needs and concerns. However we have no guarantee that learning is produced. It is very important for any educational program to be able to facilitate communication among all of the parties involved in the program. Communication between students, teachers, administrators, must be very efficient, concise and transparent.

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