Blended Learning and Applying New Tools and Services of E-learning Support

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Abstract

Due to combining the blended learning program with practical work on institutional e-learning projects, strengths and weaknesses of different online technologies and learning methods have been examined. There are differences between traditional e-learning system and E-Learning 2.0 training, which appear in the recent time, responsive to the needs of learners, technologically supported by Web 2.0 applications. Wherein the principles of "promoting individual creativity", together with the principle of "use of collective intelligence" are most often applied. As a further strategy we planed to enlarge the capacity of blended learning process by applying on-line activities and training methods supported by E-Learning 2.0 tools. Introducing also new subjects to out data-base and expansion of the data-base by creation the new compulsory disciplines courses. Creation of social network and community inside of College as well as applying wiki – activities will play more attention to furthered work.

Keywords: E-Learning 1.0, E-Learning 2.0, blended learning, Web 2.0 applications, wiki – activities

1. Introduction

The latest evolution of the Internet, the so-called Web 2.0, has blurred the line between producers and consumers of content and has shifted attention from access to information toward access to other people. New kinds of online resources – such as social networking sites, blogs, wikis, and virtual communities – have allowed people with common interests to meet, share ideas, and collaborate in innovative ways. Indeed, the Web 2.0 is creating a new kind of participatory medium that is ideal for supporting multiple modes of teach (Brown & Adler, 2008).

2. Development of e-learning

2.1. Foundation of E-Learning 1.0 and applying blended learning

The blended learning model is established in Technical College of Yambol and supported by e-learning on-line materials that included different courses in Informatics, Programming languages, Information technology, Common and General Chemistry, Biochemistry, Microbiology, Ecology and etc.

The results show that the performance of e-learning system improving the effectiveness of the education, as well as improving the motivation among students and teachers (Pehlivanova et al., 2009).

2.2. Comparison between E-Learning 1.0 and E-Learning 2.0

The second phase of e-learning, based on Web 2.0 technology is called e-learning 2.0, the comparison between the main features of the two stages e-learning are shown in table 1 (Ivanova, 2008).
### Table 1: Features eLearning 1.0 and eLearning 2.0

<table>
<thead>
<tr>
<th></th>
<th>eLearning 1.0</th>
<th>eLearning 2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training in Web environment - student consumed and transmits information</td>
<td>Training in Web platform - the student has written and co-create, share, combine, used in different contexts, distributed content and knowledge</td>
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<td>Management systems training - require installation, administration and maintenance</td>
<td>Free hosted systems for eLearning 2.0, start pages, social networks, services and tools</td>
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<tr>
<td>The courses are designed for groups</td>
<td>The effect of &quot;long tail&quot; and the effect of &quot;snowflakes&quot; affect the definition of individually tailored training</td>
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<td>Still much of the management of the training are not oriented to services</td>
<td>Freely available and easy to use services - to encourage participation, the effect of &quot;social networking&quot; - the value of Web 2.0 services increases when are used by more people</td>
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<td>Taxonomy - the course is indexed by an expert, educational resource are created top-down, one way</td>
<td>Organization of links to resources through participation in networks (Folksonomy - sharing links) - categorization of learning resources, working cooperatively, bottom-up, multidirectional</td>
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<tr>
<td>Personal pages - static presentation of information</td>
<td>Social software - the effect of &quot;using the power of the crowd&quot; - to encourage participation</td>
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<tr>
<td>Ultra information on static pages</td>
<td>RSS, mash-up services enable the student organization dynamic accurate and specific teaching resources - to encourage individual expression of creativity</td>
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<tr>
<td>The software product is ready, used only in its final version</td>
<td>Software as a Service - forever in beta version, innovation enabled the learner, which can be a software developer</td>
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<tr>
<td>The components of a system are strongly defined and coordinated</td>
<td>The system allows the assembly of components, which can be implemented flexibly, personalized and adaptive learning</td>
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<tr>
<td>All rights reserved</td>
<td>Some rights reserved - students can combine and reuse resources from different sites</td>
<td></td>
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<tr>
<td>CD, web-based content</td>
<td>Web content is accessible through different devices and can be delivered through various methods, such as podcasting</td>
<td></td>
</tr>
<tr>
<td>Web-based applications, often with &quot;thin&quot; client desktop applications</td>
<td>Web-based applications with &quot;rich&quot; user interface</td>
<td></td>
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</tbody>
</table>

Like many important concepts, Web 2.0 doesn't have a hard boundary, but rather, a gravitational core. The visualization of Web 2.0 is given on figure 1, as a set of principles and practices that tie together a veritable solar system of sites that demonstrate some or all of those principles, at a varying distance from that core (O'Reilly, 2005).

The term E-Learning 2.0 (Karrer, 2006; 2007) for CSCL (Computer-supported collaborative learning) systems came about during the emergence of Web 2.0 (Downes, 2005).

![Web 2.0 Mind Map](image_url)

*Figure 1: Visualization of Web 2.0 (O'Reilly, 2005)*
From an E-Learning 2.0 perspective, conventional e-learning systems were based on instructional packets, which were delivered to students using assignments. Assignments were evaluated by the teacher. In contrast, the new e-learning places increased emphasis on social learning and use of social software such as blogs, wikis, podcasts and virtual worlds such as Second Life (Redecker, 2009). This phenomenon has also been referred to as Long Tail Learning (Karrer, 2008).

2.3 Main Moodle set of teaching-learning resources and activities components of E-Learning 2.0

Moodle has an important set of teaching-learning resources and activities. It is particularly useful to define groups and work in virtual spaces. According to some authors the most useful tools in this course have been (Donoso et al. 2010):

- Internal e-mail
- Generation of Web Pages
- Insertion of several kinds of documents and files
- Advanced file upload
- Online activities
- Questionnaires
- Generation of Wikis

Wikis – Wiki is unusual mechanisms of communication in that it allows the organization of contributions to be edited in addition to the content itself. Like many simple concepts, "open editing" has some profound and subtle effects on Wiki usage. Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. Wiki supports hyperlinks and has simple text syntax for creating new pages and crosslinks between internal pages on the fly (http://www.wiki.org/wiki.cgi?WhatIsWiki).

Wikis offer a powerful yet flexible collaborative communication tool for developing content-specific Web sites. Because wikis grow and evolve as a direct result of people adding material to the site, they can address a variety of pedagogical needs - student involvement, group activities, and so on. Since wikis reside on the Internet, students can access and participate from any location, provided they have Internet access. From an instructional technology perspective, wikis allow faculty and students to engage in collaborative activities that might not be possible in a classroom. Their flexibility will encourage broader adoption - by both students and faculty (fig. 2).

![Figure 2: Trends of wiki technology from 2004 to 2009 provided by (www.google.com)](image-url)
There are creative wiki’s practices by which students can include group lecture notes, group project management or brainstorming (Nedeva & Nedev, 2010).

Usually, lecture notes are a solitary activity, but one person can easily miss an important point during a lecture through daydreaming or trying to understand a prior point. Students may also have difficulty deciding what information is important and what is elaboration or example. Creating a wiki for group lecture notes after a lecture gives students a chance to combine all their notes. Those that missed information can get it from their peers. The group can also decide what information is critical and give it proper emphasis. Group lecture notes could be done with the entire class, if it is small enough, or with small working groups. Groups can also compare notes for further discussion and refinement.

The most straightforward use of a wiki is as a tool for group collaboration for creating group projects. A teacher assigning a group project can give students a place to work by creating a wiki with the group mode enabled. This will give each group their own space to record research, to develop outlines and to create the final product. The teacher may create a submission date on which to turn off editing capabilities for students so that he or she can grade the final projects. Afterwards, the teacher may enable visible groups so that everyone can see each other's work.

Brainstorming is a non-judgmental group creative process in which group members are encouraged to give voice to any ideas they personally consider relevant to the group exercise. In a face-to-face meeting, a brainstorming facilitator will usually stand in front of a big piece of paper and elicit ideas from the participants in the room. A teacher can create an online version of this process by setting up a wiki for the entire class or for smaller student groups and asking people to submit ideas around a brainstorming topic. People can add ideas as they occur and link to other pages for elaboration.

A teacher might assign his or her class the task of contributing to Wikipedia, Wikiversity, or to another wiki on the Web, on any class topic, perhaps by assigning students to groups (or making it a class project if the class is small enough and the topic broad enough) and challenging them to collaboratively create an article they would feel confident posting to a public-information space. Students will use the course wiki to create drafts of the article they will eventually publish to the community at the end of the semester.

Filters allow for the automatic transformation of entered text into different, often more complex forms. For example the titles of resources can automatically become hyperlinks that take you to the relevant resource, URLs pointing to mp3 files can become Flash controls embedded in the web page that let you pause and rewind the audio. The possibilities are endless and there are a number of standard filters included with Moodle and many more specialized filters available from the Moodle.org.

2.4 Systems for distributing E-Learning 2.0

E-Learning 2.0, by contrast to e-learning systems not based on CSCL (Computer-supported collaborative learning), assumes that knowledge (as meaning and understanding) is socially constructed. Computer-supported collaborative learning (CSCL) is a pedagogical approach wherein learning takes place via social interaction using a computer or through the Internet. This kind of learning is characterized by the sharing and construction of knowledge among participants using technology as their primary means of communication or as a common resource (Stahl et al., 2006). CSCL can be implemented in online and classroom learning environments and can take place synchronously or asynchronously. In E-Learning 2.0, learning takes place through conversations about content and grounded interaction about problems and actions. Advocates of social learning claim that one of the best ways to learn something is to teach it to others (Brown & Adler, 2008).
Such systems are, for example:

- **EctoLearning** ([www.ectolearning.com](http://www.ectolearning.com)) - EctoLearning is a social, collaborative, online learning environment that directly addresses the needs of the modern learning environment by making the new communication skills and competencies for content creation and sharing central to the classroom experience. EctoLearning is also a full Learning Management System (LMS) with attendance tracking, grade book, and a sophisticated assessment engine including the use of rubrics based evaluations;

- **Edu 2.0** ([www.edu20.org](http://www.edu20.org)) - This platform is an easy-to-use, free cloud-hosted LMS+, with nothing to download or install. It includes a comprehensive set of LMS features as well as Facebook-like news feeds and social networking. Edu 2.0 differs from systems such as Moodle and Blackboard. There are several important differences. First of all, Edu 2.0 is web-hosted and free; you don't have to download any software or manage your own servers. Second, section “Resource” allows you to graphically browse thousands of community-contributed resources by topic; you can even upload your own resources. Third, Edu 2.0 unique personalized learning system allows students to study at their own pace and track their progress against a chosen curriculum. Finally, “Community” section allows teachers and students to network and collaborate with other members that share the same educational interests;

- **eLearningCommunity 2.0** ([www.elearningcommunity.com](http://www.elearningcommunity.com));

- **LearnHub** ([http://learnhub.com/](http://learnhub.com/));

- **LectureShare** ([www.lectureshare.com](http://www.lectureshare.com)) and other.

3. Conclusion

There are differences between traditional e-learning system and E-Learning 2.0 training, responsive to the needs of learners, technologically supported by Web 2.0 applications. Wherein the principles of “promoting individual creativity”, together with the principle of "use of collective intelligence" are most often applied. As Downs points out, "Web space has changed - from the environment in which information is transmitted and consumed into a platform where content is created, shared, mixed, used in different contexts, distributed" (Downes, 2005).

In order to satisfy the new trends and requirements for the fast oriented, flexible and suitable education our team apply efforts to develop and organize with the new approaches and technology the educational system. Creation of social network and community inside of College as well as applying wiki – activities will play more attention to furthered work.

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