Personally better…?

Analysing Moodle learning management system as a platform of cooperative education

Keywords:

e-learning, higher education, online cooperation, learning management system, examination, focus group, integrated platforms

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0. Abstract

Until 2012 a wide range of Hungarian universities have implemented different kinds of learning management systems (LMS). These frameworks and their applications allow teachers and students to widen their opportunities for common activities as well as non-personal communication and participation: group work, projects, online examinations, gathering common knowledge etc. However, using and utilizing an LMS requires a wide range of competences, thus its usage is a great challenge both for teachers and students.

A national-scoped research in Hungary in 2012 (sponsored by one of the Hungarian informatics consulting companies) showed a – more or less – surprising partial result. Considering the so called 'Moodle' LMS, most of the students in two large universities taking part in the research claimed that they absolutely prefer personal contact with their teachers as well as with each other. Interviews made with teachers also showed that the solely online led courses have to face the problem of uncontrollability and the weird feeling of loneliness (students categorically demanded contact lectures in case of online courses). Does this effect only depend on the ergonomic structure of the LMS, or is it all about our human nature?

The second crucial exploration of this research was the problem of opened and closed information flow as well as integrated platforms. Most of the users do not know whether their works would be available after several years or will it be vanished during the years. They also do not understand why not to integrate learning management systems into widely used opened social media platforms. What kind of problems may this cause? What resolution could be found? All these questions are to be discussed in this paper.

1. Behind the Moodle-scenes: constructive pedagogy, learning and groups

Learning and teaching management systems based upon info-communication technologies (ICT) have four generations. The third and fourth ones are the first and second generations of e-learning systems at the same time. (See delineated in Table 1. The fourth generation appeared and exists since about 2008-2009.) Moodle learning management system (an open source e-learning platform) clearly transgresses the learning content management functions. Beyond the registration of contents, it is able to manage the whole process of learning and teaching due to several web2-functions.

I. generation (until the middle of '90s)
Application of local ICT tools; computer as a tool for education technology. Pedagogical and technological methods are still independent.
II. generation (from the middle of

'90s until the Millennium)	
Spread of internet usage, differentiation of web-tools. Personalised e-curricula are not available yet, there is no strong communication technological background.	
III. generation (from the Millennium)	**1st generation of e-learning**
Appearance of Learning Management System (LMS) and Learning Content Management System (LCMS), learning process' technological integration.	Students' self-guided, personalised e-curricula, independence from space and time, broadened communication opportunities, innovative pedagogical methods supported by ICT.
IV. generation (in the future)	**2nd generation of e-learning**
Portfolio-centred content management, web2-based collaborative modalities are available.	Open information sources, dynamic content, renewing communication channels, self-guided, interactive learning, re-evaluation of teachers' and students' role in education.

1. Table: The education technological environment of the student-centred learning (Köpeczi-Bócz 2007. 18-20.)

Moodle and other LMS platforms are all based upon constructive pedagogy and group working. This concept stems in the early 20th century reform pedagogy, as a deliberately and systematically used education method. In contrary to classic teaching methods, working groups proved to be rather efficient in the following fields:

- increasing students' common performance
- increasing the learning motivation
- intensifying the attention
- configuring positive dependences between the members of the group
- development in giving help to each other (Pfister 2007. 26.).

Cooperative learning groups, furthermore, concentrate on common leadership of learning, which requires a great deal of social competences (Johnson and Johnson 1994). The headcount of these groups is limited from 2 persons up to 6 people (Rudas 1990. 16.), although Moodle allows the cooperation for more than 500 people in a single group or course. Teachers can distribute the oversized courses or groups into smaller ones to resolve the problems occurring by the "crowd". Group-forming can happen both randomly and purposely; opportunities and threats of these two methods can be seen in Table 2.

Opportunities of purposely formed heterogeneous groups	Opportunities of spontaneously formed groups

▪ Well-balanced groups can be formed ▪ Helps building relations between students with different ethnics, gender and literacy ▪ There is at least one student with good performance in every group ▪ Students with humble performance can get effective help from their mates ▪ Leadership: group members can help each other properly	▪ New contacts can be made, groups cohesion may increase ▪ Involves social roles, helps the group building ▪ Quick and simple method ▪ Applicable without the knowledge about students ▪ Various, spontaneous, entertaining ▪ Vanishes the resistance ▪ Rich in altering opportunities
Threats of purposely formed heterogeneous groups	Threats of spontaneously formed groups
▪ Requires more time and attention ▪ No strong-strong and weak-weak relations ▪ Strong relations can be formed between group members ▪ Implicite succession ▪ Negative metacommunication (impossible to work together with all the others)	▪ Groups can be formed where no one understands the task ▪ Deep conflicts may occur ▪ Members of the same ethnical, gender, etc. groups may be in the same learning group ▪ Less opportunity for learning the learning ▪ Unbalanced, "winner" and "loser" groups may evolve

2. Table: Opportunities and threats of planned and spontaneous learning groups (Kagan 2001. 10.)

Applying LMS requires rethinking of the teachers' role in teaching and learning process. Teachers have to face the fact that new learning methods require a lot of new competences (e.g. skills, knowledge in organising cooperative groups, applied psychological practice, etc.), and that they have to change their attitude towards group-leading, becoming facilitators from leaders. In LMS environment, a teacher has to step up – among others – in the following ways (Pfister 2007. 37-39.):

- Teacher behind the scenes: indirect and paradox leader methods, by which teachers' interventions are made more and more important by controlling the students from the background mainly.

- Tutor: metacognitive leadership, facilitation, during which he organises the conditions of learning progress, and controls the whole process.

- Consultant: instead of pure knowledge intercession, he has to create the "healthy noise" for work, the communication with students.

- Decision maker: he has to step up permanently as a leader during determination of teaching aims, preparing tasks, organising the work and creating groups.

- Creative pedagogue: making tasks requires hundreds of ideas while organising groups, creating the material and spiritual requirements of teaching and learning.

- Tool-creator pedagogue: making and preparing supplementary material requires a lot more time and work than applying classic methods.

- Developer pedagogue: persistent efficiency rating happens not only in the end of a learning process, but continuously on behalf of the students during the learning process.

- Pedagogue cooperating with colleagues: workshops, common visits, clubs for learning new methods, common vocational trainings, brainstorming can extent the gauge of cooperation with colleagues.

Beside the changes in teachers' skills, it is important to emphasize how they can tackle with the practical problems in everyday work. In an ideal world, constructive pedagogy may show up in schools and even in higher education. This trend focuses on problems, conflicts and the methods how they can be solved and handled, moreover, decision-making algorithms and modelling games come into discussion. These, however, can only work if students are in the centre of learning process (Nahalka 1997). Unfortunately, most teachers are not aware of the essence of constructive pedagogy, and there are only a few experts who can handle all the challenges settled by LMSs (Kovács–Mészáros 2007. 33.).

Talking about lifelong learning, we have to emphasize the importance of students' intellectual flexibility as well. As Papp (2004) claims, education henceforth has to change its paradigm for two reasons: "On the one hand, labour market expects practical qualification, which better satisfies its needs. On the other hand, as we faced it by as we have seen it in PISA-surveys, the advantage of education is on the side of self-supporting, decisive, creative and productive personalities."

According to the theory of constructive pedagogy, Moodle LMS allows a wide range of themes, curricula and communication forms. Each partial competence is supported by different internet-based modules. However, the real cooperative learning via Moodle is jeopardized by many different factors:

- teachers and lecturers use Moodle only for uploading and distributing electronic curricula or make automatically revised tests;
- teachers and lecturers fear for their status, and they beware of publishing their supplementary material online;
- some teachers and lecturers consider Moodle-development as pure technical work, while it is a necessity of successfully managed constructive pedagogy;
- there is a lack of digital literacy competence among teachers as well as students;
- some technical properties of Moodle show weaknesses – they cannot be installed, only adjusted;
- web-design of Moodle stayed at the stage of 1990s (Bessenyei–Tóth 2008) – releasing "Moodle2", a newly introduced version of Moodle LMS, this latter problem has been resolved in the last quarter of 2012.

2. Research about the efficiency of Moodle LMS in cooperative education

As we depicted above, Moodle LMS can theoretically assure all the conditions and premises to renew pedagogy in higher education system. Notwithstanding the above-mentioned jeopardizing factors, Moodle is a potential tool for cooperative study. The effective success, however, depends on the real competences of users. Henceforth, in this subchapter, we present a research briefly which aimed to gauge the opinions and uses about Moodle LMS.

A national-scoped research in Hungary started in 2010 to explore how teachers and students can deal with learning management systems and what purposes these platforms serve (Electronic Scenes in Higher Education, 2010-2013). The first results were published after one and a half year in 2012. The elements of the research were sponsored by Dexter Informatics and Consulting Corporation, the firm which provides one of the biggest Hungarian LMS called ETR (Egyetemi Tanulmányi Rendszer, University Scholastic System). Programmers and social scientists cooperated to answer the following crucial questions: how can we use learning management systems, on what degree to what extent do we know them, and how can they help us to develop higher education? (A proceeding of research papers is up to come in 2013.) In this paper we will cite some interesting partial results about the inquiry of Moodle.

Our quest focusing on Moodle combined two qualitative methods. On the one hand, we interviewed teachers and lecturers in two great Hungarian universities, in all three faculties (Corvinus University of Budapest, Faculty of Social Sciences and Faculty of Business Administration, respectively Budapest Business School, College of International Management and Business). On the other hand, on all the three faculties, we recorded students' focus groups with semi-structured topics on learning management systems and everyday experiences about Moodle. In this delineated paper we can only summarize the main points and remarkable outcomes of the research. The whole text will be available at Bokor–Török (in press).

2.1 First aspect: viewpoint of lecturers

- Organisation culture: if there is a traditional organisation culture at a university or other institute aimed at education, frontal work and other traditional methods naturally dominate. Moodle theoretically requires a change in approach both from students and educators. The above-mentioned constructive pedagogy can only work if local organisation culture supports and incites cooperation, creation of mutual knowledge-bases and shoving off from one-sided methods which lack of interactivity.
- Time factor: All teachers claimed they spend at least 20% of their work time on administrating and fine tuning Moodle. By the start of a semester, there can be a 60-70 hours need for setting up new courses, uploading supplementary material etc. This enormous amount of time may be frightening, but ensures that Moodle use is serious challenge. (As against the supposition that an online Moodle course can be an easy substitution of offline ones, for it is much less time-consuming.)
- Type of knowledge: It is important whether qualitative or quantitative knowledge is required in a certain course. In informatics or finance course exams, for example, automatic revision is easily available, using traditional testing methods and

algorithms. However, keyword-based online essay revision may cause misleading results, e.g. if the student misspells an important word.

- Moodle as an organiser tool: Perhaps the most important fact is that – according to a research based on application data and students' opinions – there is no significant correlation between Moodle use and the outcome of courses (Keresztury–Cser 2011). This statement was verified by interviewees, as they claimed Moodle can only help organising curricula and controlling students' behaviour, e. g. in an exam situation.

2.2 Second aspect: viewpoint of students

- Socialisation: Students born between 1989 and 1993 have not been practised to computer-supplied study, more or less until their last years of high school, partially because of the above-mentioned traditional organisation culture. Thus the last age-group of "Generation Y" (Tari 2010) is a non-native computer user, therefore they have to learn how to handle online platforms. Of course, this problem will solve itself will be solved by involving "Generation Z" (Palfrey–Gasser 2008; McCrindle–Wolfinger 2009) into the education system. However, one has to think of those people who start their studies in their mature years, cf. OKJ-credentials, andragogy, etc. – in their case, ICT-knowledge is mainly a special issue.
- Equity: Most students resent the fact that online registration to some courses creates inequity. University internet servers let often easier access to courses than computers used at home. If the sequence of registration counts, this inequity may be unfair. On the other hand, if students have to write critics about each other's online work (e. g. in a Moodle forum), they make it much more unreserved, in a colloquial usage than offline, in a classroom situation.
- Time factor: Students expect their teachers to spend much time on online courses. They clearly see if a lecturer does not invest enough time into managing and/or supervising his courses. Laxity can easily make e-learning an airy simulacrum of real learning this way. Beside this viewpoint, students dislike spending much time on Moodle while they spend lots of time on other social media platforms, e. g. on Facebook. They only see the sense of using Moodle if they get some extra via this platform, which classroom situation can't assure.
- Multitasking: Surprisingly, the biggest problem with Moodle is the online nature itself. In our research, students stated several times that they often cannot concentrate on study if other windows are opened beside Moodle. (Most threatening proved to be the Facebook considering concentration.) The multitasking method of computers can be rather perplexing if concentrated attention would be required.

2.3 Third aspect: uses and gratifications

- Routine: If someone has experience in handling social media platforms, Moodle will not make any surprise. However, referring to the prior point (socialization), inexperienced users need serious close-up to keep step with the platform and the curricula.

- Conversation dynamics: Offline meeting and brainstorming releases much more arguments and personal opinions in conversational dynamics than online communicative scenes. “Cyberdinamics” does not require the explicit participation of every single member, while offline we often insist on evolving the tongue-tied ones into the conversation as well.
- Unnecessary functions: both students and lecturers declared that Moodle offers a few unnecessary/meaningless functions such “online users” (a displayed list of currently active users on the right prism), SCORM-packages (a function for creating and sharing a special format of e-learning material), or RSS feed (similarly to webpages’ RSS news forums), real-time chat, etc. These can’t be sensibly utilized via Moodle, claimed most of the interviewees.
- Availability or knowledge: interestingly, the students emphasized that there exists a hazardous fallacy about uploaded files. If a curriculum is available and downloadable online, students tend to think that they already might know what it contains, and this may well be enough for a successful exam. This belief proved to be rather misleading several times in real life, regarding the fact that study is a voluntary, conscious and – normally – a quite time-consuming process – still in the 21th century.

2.4 Future opportunities

During the research, a special topic came up several times: A group of students suggested integrating Moodle into Facebook. The reason and rationality of this need is easily understandable. While more than one million Hungarian youngsters between 19-25 use Facebook (socialtimes.hu 2013), they basically do not need another platform to scan and to spend their time on. Critics of the integration claim that Moodle has to be a strictly managed platform controlled “from above”, taking care of copyrights and preserving material for long time. Facebook cannot assure safety and long-term accessibility to uploaded files. Furthermore, Moodle is a closed platform with directly invited members, while joining Facebook and other marketing-based social media sites is free-of-charge, which effects a great deal of contingency. Thus one never knows on Facebook who can see and use his intellectual properties – in spite of Moodle, where a difficult system of authentications eliminates the virtual abuse of copyrights.

Most interviewees did not know until the end of the research whether the scenes would be available after graduation or not. Fortunately, the answer is positive: all usernames and passwords will stay in the system, so one can login and search on old scenes well years after leaving university. This information underlines the importance of non-stop official support organised and financed by the host institute. Only this continuous attention can ensure the correct preservation of intellectual properties according to classic legal system. A good solution may be if Moodle could be integrated into an opened social media platform with all its special authentications: one could access Moodle and Facebook with the same username-password combination, while the Moodle-content would be available only for members with special authentications. For such a step, serious consideration of a new marketing model and transfiguration of the online legal system is definitely required.

3 Summary

Via Moodle, cooperative or constructive pedagogy cannot predominate currently for several reasons currently. In general, all of the interviews and focus groups categorically proved in all faculties that students regard Moodle as a file server or a virtual examination room. Teachers seized these opinions as they claim the biggest wealth of Moodle is archiving files, supplementary material and creating online tests. There were specific differences among Moodle's judgement talking about personality: one group of students do not bother to learn online without any physical tool (except some kind of computer, of course), whilst others are perplexed by the fact that they have no personal connection with their teacher at all.

The most interesting opinion is that a clear majority claimed to feel Moodle a "dead matter": excessively said, it is full of unusual functions, and neither the usual ones are generally used by their teachers (a detailed list of functions can be seen at Bujdosó–Molnár 2012). Markedly much people declared that they would definitely miss offline contacts in a world of pure online learning. The solely online led courses have to face the problem of uncontrollability and the "weird feeling of loneliness": students categorically demanded contact lectures in case of online courses. This effect does not depend on the ergonomic structure of the Moodle. Moreover, it stems in our human nature. Finding solutions for the problem of online and offline dynamics' differences is a topic of another paper. Here and now we only shouldered to establish the mixed feelings about Moodle.

A future programme will have to soothe the reluctance against Moodle. However, it is possibly a paradox, for the human nature insists on personal connections even if a wide variety of online methods are available – because, according to the research results, everything is better personally, including study.

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