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# Learning Outcomes for Blog-Based Courses: a Case Study

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**Abstract.** We specify the learning outcomes achieved through *blog-based* courses for students who have never experienced this type of course before. We also describe the main problems the students faced during the course, analyse the reasons for these problems and propose some scaffolding possibilities. The study relies on two consecutive presentations of the course “Intelligent Computer Use” in Tallinn University.

**Keywords:** Blog-based course, learning outcomes, university studies.

## 1 Introduction

It is commonly accepted that contemporary competitive and sustainable society is a learning society where education extends far beyond formal education. Some authors even claim that more than 80% of competences which people use in their professional activities are acquired through informal learning [12]. Learning environments and learning patterns in informal learning are mostly quite different from those traditionally used in formal classroom-based learning: informal learning takes place mainly in social networks supported by different web-based tools. Effective informal learning assumes the ability of learners to use suitable learning tools and to direct their learning in a chosen learning environment. Acquiring these skills and developing a culture of informal learning should certainly be included as tasks of formal education.

More and more university teachers are using different social media tools in teaching: social networking tools for discussions, blogs and slide repositories for presentations, e-portfolios for assessment etc. However, the extent of using social media tools in different subject areas varies greatly. For example, portfolio based assessment that is relatively widely used in teacher training is used infrequently in informatics’ studies [1].

On the other hand, some critical questions can be asked. For example, how many of those teachers who extensively use social media tools in teaching are even asking themselves about the development of students’ skills for informal learning? Do the teaching methods that are used support lifelong learning skills? Laurillard [2] has already stressed the need of using adequate teaching methods to keep pace with what is needed in professional life. Not only are ICT-skills necessary, such as word-

processing, e-mailing, programming, using web browsers etc.; the learner should also be aware of how information and knowledge can shape their lives, their community, and the world around them [3]. This in turn assumes certain knowledge sharing and self-reflection skills. For a suitable tool for development of these skills, many authors suggest using blogs [4, 5]. Nevertheless, according to our experience, blog-based courses have not yet become established as a common practice at universities.

This paper studies the problems of implementing blog-based courses in informatics in university undergraduate studies. The goal of this study is to find answers to the following questions:

- a) What competences does a blog-based course predominantly develop in a student?
- b) What are the main problems that students identify when using blogs for learning purposes?

The findings are based on two consecutive case studies after conducting the course “Intelligent Computer Use” at Tallinn University.

## 2 Using blogs in educational settings

During the first decade of the 21<sup>st</sup> century, universities started massive use of *Moodle* and *Blackboard* type of learning management systems. These systems were – and still are – institution-centred and accessible to authorized people only. The fact that students after graduation lost access to these systems erected a firm barrier between formal and informal learning. To overcome this, universities are opening up education to a wider audience by implementing personal learning environments that integrate blogs, e-Portfolios, and networking functionality [13].

Some universities started to use blogs for supporting student-centred learning a number of years ago [6]. Compared to traditional classroom learning, blogs have many advantages: students can choose the time and place for discussions, interactivity supports peer-assessment and self-assessment; students can reflect on their studies as well as develop their own writing skills etc. [7]. The importance of reflection as part of the learning process has been emphasized for decades [8, 9]. Nevertheless, blogs are mainly used for self-reflection in educational sciences and medicine and not so much in ICT studies.

On the other hand, previous studies about using blogs in teaching and learning have clearly shown that blog-based courses can be innovative, both for students and for facilitators. Study of Williams and Jacobs [18] indicated that using blogs offer for the support students’ autonomy and greater interaction with peers. Ebner and Maurer [19] have claimed that using blogs in higher education settings enhances learning and teaching process in multiple ways and makes learning more student-centered. However, a blog-based course *per se* is not necessarily effective: a suitable course design and implementation that releases the full potential of a blog-based course is needed. For example, a course design should promote activities that support self-direction, sharing ideas, commenting, etc. [16, 17]. Luján-Mora & Juana-Espinosa [20] experienced in their study that there are some significant barriers in using blogs:

assessing student participation in the weblog is difficult as several indicators like group grading, individual posting, and quality of posts should be taken into account, using technology is restricted etc. Some students and teachers are reluctant to use blogs because they prefer more privacy in learning. Another concern is related with the hesitations of the public reflections process in weblogs by the facilitators [20] and students [20, 21]. Therefore, a blog-based course can be even more challenging for facilitators. Although the facilitators usually understand the potential of blog-based courses, they still have difficulties in making use of new opportunities in guiding discussions, monitoring students' contributions, leading students to suitable learning resources in an open environment and providing feedback etc. [14, 15].

### **3 Methodology**

This study followed the case study methodology for data collection. Yin [11] has claimed: "a case study is an empirical enquiry that investigates a phenomenon within its real-life context". For the case study we chose a blog-based free elective course "Intelligent Computer Use" that was open to the students of all specialties. The course was designed and implemented in 2010 and 2011 in the Institute of Informatics at Tallinn University. As a model of delivery, rotational team-teaching was used. Rotational team-teaching means that there are a number of teachers involved in teaching the course; they instruct classes separately and attend class only when teaching their particular topic [10]. The aim of the course was to support development of students' knowledge and skills for using IT tools that support effective operation in an information society. The course curriculum included the following topics:

- The information society and its members;
- Composing and applying a personal learning environment;
- Selection and installation of IT-tools;
- Operating systems;
- Managing a personal computer, preventing and solving possible problems;
- Using mobile devices;
- Computer security issues;
- Web applications and their adoption;
- Social networks;
- Web-based collaboration tools;
- Multimedia at home;
- Digital photography;
- Copyright, licenses, open educational resources

The course had a separate blog that contained course materials and links to the personal course-related blogs of the students. Every week there was a 90-minute class on a specific topic followed by a one-week web-based study by the students. Students were expected to define their personal learning goals for the course in their personal course-related blogs, present a self-analysis and perform the following activities every week:

- a) Elaborate, discuss and reflect on course materials on the topic;
- b) Perform practical assignments on the topic;
- c) Comment on peers' blog posts.

Students also had to select three topics during the semester and compose an essay on each of the selected topics. During the final stage of the course, groups of 3-4 students were formed for designing and presenting a course related project. The course ended with a double evaluation – textual and form-based. In the textual evaluation, the students had to assess different aspects of the course: the learning environment, topics of the course, tasks for home assignments, structure of the course, and identifying the problems they perceived. The evaluations were collected and analysed with the content analysis method.

## 4 Results and discussion

Although exactly 32 students participated in the course in each year, none of them had previously experienced a blog-based course (almost all students were in the first semester of their university studies). This was a 4-credit course and therefore every student was expected to spend a total of  $4 \times 26 = 104$  academic hours on the course. These were estimated to be divided as follows: 28 hours for classroom studies, 46 hours for elaborating course materials and performing practical assignments, 24 hours for composing essays and 6 hours for completing the course project. The vast majority of the students gave the course an extremely positive rating – the average score on the scale 1 - 5 was 4.9.

Based on the data collected from students' blogs, discussions and completed course feedback questionnaires, the course contributed predominantly to the development of the following competences of the students:

### **a) Improving written communication skills (composition of comprehensive texts)**

Because the students had to present the solutions of the practical assignments in their blogs, about half of the time was spent on text composition. In fact some students probably spent even more time on writing, judging by some comments such as “*the amount of writing was not in accordance with the number of credits of the course and more credits should be provided*”. On the other hand, although some students complained about the required amount of writing, the majority of blog posts were of very high quality (with the average score of 4.5 on the scale 1 - 5). One possible explanation for this high quality is that free accessibility to the blog posts motivated the students to put extra effort into elaboration and ‘fine-tuning’ of the texts.

### **b) Acquaintance with the principles of self-directed and community-based learning**

The students were free to decide on the topics for essays and on the course project and they could manage their time, exchange information and discuss ideas etc. On the other hand, there were a few students who expected that the teachers should drive the whole process including student-to-student communications: “*it seemed that the goal*

*of the tasks was just to make the students perform assignments, but not to encourage them to have discussions and learn from others or to work collaboratively” as one student commented.*

### **c) Gaining experience of systematic use of social media tools for learning**

In addition to the blogs which the whole course was based on, using certain other social media tools was necessary for performing home assignments as well – course aggregator EduFeedr, viewing slides from Slideshare.net etc. The students considered “blogging” a very efficient tool. One said: *“updating the blog as part of the course assignments was new and interesting and I’d be glad if other courses would use the same approach”*. Another added: *“I got the blogging experience that I never had”*. Another opinion: *“I have never been a blogger, but now I know what a blog is and what can I do with it”*. One student said: *“the most exciting thing about the course was blogging”*.

### **d) Blog-based learning enhanced the learning skills of the students and contributed to their knowledge and skills on the topics of the course**

The feedback from students proved that the course led them to a different learning style. One student said: *“I liked the structure of the course and that I had to perform individual tasks and analyse this process; it made me think more thoroughly”*. Another added: *“It was good that we used blogs for assignments; therefore I discovered a lot of new solutions and tools for my everyday practices”*. An additional opinion: *“Although I don’t enjoy writing, these reflective tasks influenced my learning a lot and lecture subjects became clearer to me”*. Reading others’ blogs was considered important as well: *“peers’ blogs provided me the possibility to see things from another angle and even more important – it developed my understanding of things”*. Some students who were suspicious about using blogs at the beginning of the course did change their position later. One student said: *“Using a blog for presenting tasks seemed pointless at the beginning of the course, but actually it was really an interesting solution – all the course-related content is in the same place and I have access to it everywhere”*. Another student claimed at the beginning of the course: *“blogging supports the individualism of learners”*. At the end of the course he had a different opinion: *“social networking tools might even be better tools than blogs but I learnt a lot about how information flows between blogs and bloggers, which is extremely important and needed”*.

Although the students assessed the whole course very positively, if we take into account the problems some students identified during the course, there are still some possibilities for further improvement in organizing the course. From the point of view of students, the main problems were the following:

#### **a) Uncertainty and fear of composing low quality texts**

Some students admitted that they did not like blogging – especially during the initial phase of the course – because of not having the necessary writing skills. *“I don’t like public reflections, because I am afraid I can’t produce texts without feeling*

*embarrassment later*”, explained one student. Another student added: *“at first I did not like the idea of blogging because I am poor at writing, but by doing it repeatedly over weeks I started enjoying it”*. How uncertain some students were in deciding on the quality of texts becomes evident from the comment of one student: *“excellent blog posts from previous years could be presented for students as examples”* (all blog posts of a previous year were freely available in the archive section). This indicates that providing some general guidelines for composing texts, as well examples of high quality blog posts would be useful. Stressing at the very beginning of the course that the focus in writing should be put on the content of the texts and not so much on the grammar, would most probably also lower the psychological barrier for some students.

#### **b) Technical skills for effective blogging were insufficient**

A few students experienced technical difficulties, mainly during the initial phase of the course. One student wrote: *“At the beginning it was technically difficult to use a blog, but this was probably caused by lack of experience”*. Another stated: *“the Wordpress service is a totally poor blogging environment, I faced problems with every blog post that I tried to publish, text-editor is horrible and I was very upset at the beginning of the course”*. A clear message is that the different features of blogging environments should be more thoroughly explained to the students at the very beginning of the course, accompanied with a number of practical exercises. Moreover, a dedicated section for discussing technical problems would be beneficial as well.

#### **c) Irregular feedback from the teachers.**

Although the ten (10) teachers who were involved in the course were required to provide feedback to the students on a weekly basis, some of them did not do it properly or did not do it at all. This was clearly a non-motivating factor for students to present the tasks in time. One student said: *“the only thing that I did not like about this course was the lack of feedback – I expected that every week a teacher would comment on my blog post and if that had happened, then I would have tried harder to present my assignments on time”*. Another student complained in his blog: *“For example currently I don’t know if my assignments are appropriate, because I have received no feedback”*. The last comment is very important and reveals explicitly the importance of providing feedback to students.

An additional problem came up during the study: how to motivate students to actively comment on each other’s blog posts. The students were interested in getting more feedback from their fellow students while being quite modest themselves in commenting. Here is an example of a students’ sentiment: *“Currently the statistics concerning my blog indicate that there are many visitors but very few comments on my blog posts. I think that more discussions should take place, but I don’t know what carrot and stick should be given to students for doing it. Maybe the blog is not the right place for it? Maybe it would be even more efficient if teachers published the assignments in the course blog and students commented on them, instead of posting*

comments to fellow students' personal blogs?" Another student posed the question very explicitly: "how can we increase the traffic between peers' blogs?"

A lesson from this is that comments on peers' blog posts could be taken into account when assessing the students.

## 5 Conclusion

A blog-based course offers opportunities to intensively develop some skills: communication skills, skills for self-directed and community-based learning and skills for applying social media tools in the learning process. The development of these skills is not always obvious in traditional classroom settings.

On the other hand, a blog-based course is equally challenging for learners as well as for teachers, especially for those who have not experienced this type of course before. Special attention should be paid to the following aspects:

(1) Explaining the features of blogging software and providing necessary technical assistance to both students and teachers,

(2) Students should be given regular feedback; this keeps them motivated and encourages more systematic work,

(3) Development of the culture of community-based learning assumes certain guidance on the part of the teachers: initiating discussions, providing examples and relevant web links, identifying and providing personal assistance to students not taking part in discussions etc.,

(4) Incentives are necessary for motivating students to comment and give feedback on the blog posts of their peers; for example, by placing an obligation on each student to comment on the blog posts of a selected number of their peers.

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