

# Blogging in Higher Education

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**Abstract:** This paper describes a Web2.0 approach to distant teaching a master course for students of informatics at Graz University of Technology. The course was implemented by using a blogosphere for writing and collaborating. Students were able to choose whether they contribute to a new didactical concept on voluntary basis instead of writing the essays in a traditional way.

The aim is to show that a good didactical concept combined with technological implementations can enhance the purposes of learning and teaching at educational institutions. The complete concept as well as all implementations are described and discussed. The publication points out that the use of the blogosphere named TU Graz LearnLand helped to turn the content of the lecture to a more student-centered one. In the end it must be taken into account, that this considerable effort requires a change of the role of the lecturers.

## Introduction

The WorldWideWeb has changed radically within the last years. “You” was elected by the New York Times Magazin as person of the year 2006 (Grossman, 2006). Web2.0, first coined by Tim O’Reilly in 2004 (O’Reilly, 2005), becomes more and more important and influences also the field of learning and teaching (Maurer, 1996). Weblogs, wikis, podcasts and further collaboration platforms as Flickr or YouTube shocked the traditional e-learning world (Maurer & Schinagl, 2006). “Internet is about people”, “the user is the content”, “not a technological, but a social revolution” or “Web2.0 is about us” are only few examples which are pointing out the currently change of what the web is like today. If we are looking to Web1.0 (by using the same terminus) there are three crucial differences to the very first beginning of the internet: accessibility, devices and usability (Ebner et. al, 2007).

Nowadays broadband access to the internet is provided area wide in the Western European countries. In the same way a growing number of mobile devices are available. WLAN, UMTS and similar technologies help to guarantee that learners have internet access nearly at every place they want to. The technological preconditions combined with the experiences of using the WorldWideWeb lead to the starting point of Web2.0. The main question is, when switches a Web1.0-user from his/her passive, consuming role to an active Web2.0-one? A number of research works as well as our own experiences like to answer: If it becomes easy to do (Efimova & Fiedler, 2004). With other words the success factor of the Web2.0 hype is the ease of use factor. Nowadays without any programming knowledge a typical end-user can communicate by “blogging” a message via a WYSIWYG-Editor (What-You-See-Is-What-You-Get) with the rest of the world.

Sharing knowledge, opinions or collaborating with the whole world by using weblogs, wikis or other so called social software (Korica et al., 2006) have a great potential on learning (Luca & McLoughlin, 2005), bearing in mind that learning proceeds through conversation and discussions (Motschnig-Pitrik & Holzinger, 2002). Active engagement of learners will occur when they are recognizing that their needs can be fulfilled by the community (Preece, 2000). Currently, it is interesting to notice, that within educational system the use of computers have mostly been focused on enhancing learning in formal settings, typically in the traditional classroom or computer lab (Mifsud, 2002). However, learning does not always take place in such formal learning settings, even much more learning does happen incidental also called informal learning. Web2.0 technologies allow to connect or to hyperlink to worldwide information. From this point of view pedagogical researches as well as practical

examples are necessary to help us find scenarios of how to use these applications right and how we can integrate them into new educational settings.

In this publication we describe a practical example of using a blogosphere in a higher education lecture.

## Weblog

Rosenbloom (Rosenbloom, 2004) mentioned that weblogs are becoming a new form of mainstream personal communication. For millions of people, if we believe technorati (the world best-known search machine for blogs) every 30 seconds a new blog is born, weblogs are the possibility to write and publish personal messages to the web very easily. By hyperlinking and using methods like trackbacks a big network of blogs, the so called blogosphere has been emerged (Helen & Wagner, 2006).

From a very technological view weblogs are only “frequently updated websites consisting of data entries arranged in reverse chronological order” (Walker, 2003) (Schmidt et al., 2005). At the first sight weblogs seem to be very simple tools. But they are maybe the first version of a very special possibility to contribute to the WorldWideWeb by anyone, to become an active part of the internet (Farmer & Bartlett-Bragg, 2005). The concept of decentralization (Kolbitsch, 2006), per-user publication (Karger, 2005) and user centered content is much more powerful as expected in the beginning. By using the RSS (Really Simple Syndication) technology not only monitoring of a number of other weblogs is possible, but also to personalize information.



fig. 1 TU Graz LearnLand (<https://tugll.tugraz.at>)

## The Study

In October 2006 Graz University of Technology has launched an own blogosphere for all university members – students as well as lecturers. The environment is called TU Graz LearnLand (fig. 1) and is comparable to blogger.com. Every logged-in-user gets his/her own weblog with the possibility to write, collaborate and share. Further the system allows creating special communities. Each community gets also an own weblog, which can be actively used by specified communities members. It can be said, that TU Graz LearnLand consists of a number of personal and community Weblogs.

The main research question was defined as: How can weblogs are used in Higher Education? To answer this question, a lecture of informatics called “Societal Aspects of Information Technology” was chosen. The lecture is obligatory for all students of informatics and consists of 16 presentations from different lecturers. The aim is that learners get an overview about, how informatics influence human behaviors today. For to present and experience the wide range of possibilities of this influence experts of very different fields have been invited to take part. Some topics for example were eHealth, eLearning, brain-computer interfaces as well as Second Life (fig. 2) or problems of disinformation. To pass the lecture students yet had to write two essays about two topics of their own choice. The problem thereby is that articles often are very similar to the content of the presentation of the expert.

The idea of a new didactical concept was that students should blog about topics of their own choice.

The important difference to the traditional method is that the blogging process starts at the very first beginning of the lecture. Students are therefore not influenced by an expert. They search the internet or other resources by their own intentions, share and discuss their results and get so more in touch with the special topic. Of course it must be pointed out, that this lecture and its topics were very appropriate for such a didactical concept. To pass the lecture students have to blog once a week during the whole semester a contribution into two different blogs.

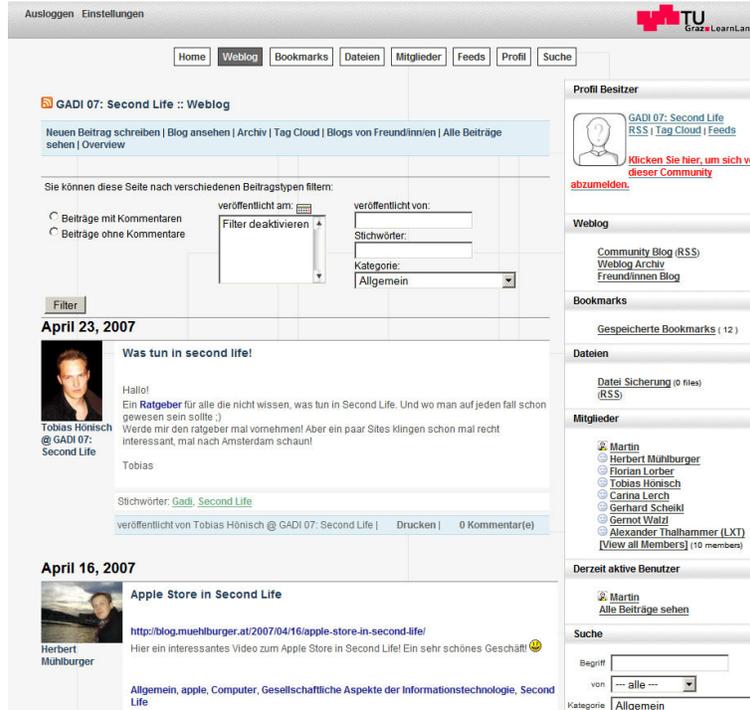


fig. 2 Community weblog with the topic Second Life

For this study two groups were established – the traditional students and the blogging students (bloggers). Students were able to decide on voluntary basis in which group they like to participate. In the end 44 of them like to blog and 181 will pass the lecture by writing essays. The bloggers had to write two contributions each week about their chosen topic and furthermore they have to comment at least one contribution of another student.

## The didactical concept

The main concepts behind the new didactical setting can be summarized by the following three major components:

1. Distributed versus compact (massive): The first issue is that learning via blogging follows the principles of monitoring the learning process. Students are collecting relevant material and start discussing. During the learning process contribution maybe turn obsolete or are revised. However, the process and the work itself are crucial factors to pass the lecture. The lecturers switch more and more to a passive role during the time of lecture. They are discussion partners and because of their experiences they are guiding the learning process if necessary.  
The traditional way that in the end of a lecture a written essay must be uploaded leads to so called massive or compact learning. Many studies show that the main learning process occurs immediately before the dead line for uploading. A very negative issue concerning that learning needs time. Furthermore it must be pointed out that nowadays informal learning becomes more and more important (Attwell, 2007). Learners acquire the skills they use at school, university, work often informally by talking, observing others, by trial-and-error and simply working with people.
2. Self-directed versus instructed: In the traditional way the essays were written after the lecturer has done his presentation. The disadvantage of this traditional proceeding is that the lecturer influences with his/her presentation the intentions of the learners. With other words the learners mostly had no previous knowledge in a very special topic and wait for the first impressions given by the teacher. If we are talking about critical thinking we have to ensure that learners are able to discuss and reflect. A

precondition is that students have their own opinion. In this context weblogs are a possibility that the learners get in touch with the topic, by writing, discussing and reflecting before the input of the expert happens; critical thinking will be possible easier.

3. **Community Building:** Learning proceeds through conversation (Motschnig-Pitrik & Holzinger, 2002). Therefore it is very essential that there are not only a number of weblogs, but also a highly hyperlinked structure. Each blogger should know what his/her colleagues are writing about. Reading others articles and reflecting them is the third didactical factor of our concept. By forcing the learners not only to write articles but also to comment other contributions this issue will be fulfilled.

### **The technical concept**

Graz University of Technology has been offering an own blogosphere since October 2006. The project is called TU Graz LearnLand (<http://tugll.tugraz.at>) and each member of the University, independently of the role (teacher, student, staff) can maintain in his/her own weblog. By his/her first login a blog is automatically created for the user. TU Graz LearnLand is based on the open source software ELGG (<http://elgg.org>) and is described by the developers as “open source software platform designed to allow people to easily connect and share resources.” ELGG is comparable with other online available blogosphere as for example blogger.com – after login the user can easily begin to blog. However, the reason why Graz University of Technology is using ELGG is justified by the strong focus on social learning and learning in communities. With other words there are on the one side more features concerning especially the field of education and on the other side the whole development community is placed mainly on education institutions (as further famous example the University of Brighton can be pointed out).

Both ELGG and TU Graz LearnLand base on a modular PHP structure with a mySQL database for the storage of contributions and user specified data. This means that the hardware requirements are very low and can easily be managed for hundreds of users. An advanced feature of TU Graz LearnLand is the synchronization of username and password with the central administration system of the university. By using LDAP connections and SSH protocols single sign on was realized to guarantee that students and teachers need only one password for the systems.

Especially for the lecture “Societal Aspects of Information Technology” the following steps have been realized:

1. Installing an administration weblog, called GADI07: This weblog was installed only for administrative purposes of the whole lecture activities. The weblog could only be edited by the lectures and was used to display messages concerning all actions and activities of the lecture. Further a RSS Aggregator was installed to summarize all further weblogs within one panel.
2. Installing a number of community weblogs, called GADI07+topic: A number of community weblogs were installed, for each presented topic one community weblog, which the contributing students had to subscribe to. The difference between members of a community weblog and simple TU Graz LearnLand users is that only members are allowed to post contributions, bookmarks or files to their community weblog. This possibility allows monitoring the learners very easily by the teachers.
3. Installing an advanced feature called “View” to each weblog: A main problem of the whole environment is that it is not easy to keep the track of. Especially in the case of a high number of community weblogs not advanced users do not know which weblog is currently displayed or how they get it or can contribute to it. To gain this lack of usability so called views have been created to manage community weblogs in an easier way. If anyone is member of a community weblog and writes a contribution or saves a new bookmark, he/she can additionally activate a view within a community weblog. With this possibility the blogger is able to make an entry within a community weblog without leaving his/her own weblog, only by telling the system that this entry should also be displayed in an other weblog.

From a technology point of view each contribution of the course is stored once in the database but displayed in selected weblogs.

### **Discussion – the point of view of the teacher**

In this section we discuss the use of weblogs in Higher Education. Was the didactical concept appropriate for this study? What were the experiences of the lecturers like? The following display the main results and facts of the study:

- **Ease of use:** The most essential point of the success of Web2.0 is usability. Users must be able to contribute within a very short time frame without a very specific knowledge of web programming or about Web2.0 technologies. Blogging itself should be as simple as writing a simple word file;

otherwise the challenge will be too big. In the first time of the project lots of usability tests, including thinking aloud and cognitive walkthrough have been carried out (Ebner et. al, 2007). The results of the tests helped to optimize the navigation through the environment of TU Graz LearnLand easier and more understandable. Within the first weeks of the lecture nearly no questions about the usability had been asked by the students. This reflects that the learners get familiar with the system in a very short time.

- Digital natives – digital immigrants: One of the major problems occurring during integration of such environments in the university infrastructure is the problem of the so called “digital divide” (Prensky, 2001). For learners or students weblogs or similar applications are not new and they are familiar with working with it (Green & Hannon, 2007). On the other side these technologies are very new to lecturers, especially the concept behind these applications. Our experiences pointed out that there is high effort necessary to advice lecturers how a blogosphere is working.
- Amount of information: One of the problems of the Internet in general is the unmanageable amount of information. With the power of RSS we are able to get information just in time, even before traditional media will present it. To overcome this flood of information we have to implement strategies of our own, how information is filtered. By installing a blogosphere similar problems occur with the information growing in there. In the current setting about eight contributions in each blogs have been made by the students every week. This leads to an amount of 128 contributions each week and 64 comments to it.

After the first week a further tool was programmed to generate an overview of each blog. The names of the blogger, the titles of the contributions as well as names of commenting students were displayed in a table. With this help the lecturers were able to monitor the whole activities much more in detail.

- Community feeling: A further aim of the didactical concept was to create a community-feeling, but it must be pointed out, that the requirement of commenting other contributions is not an appropriate instrument. Mostly the content of such comments are not very relevant and “smells” enforced. Relevant edits must be on voluntary basis as the described examples have shown.

### **Evaluation results – the point of view of the students**

After presenting the teachers’ point of view within the section discussion also the opinion of the students seem to be very interesting. What were the learners thinking? Did they like the new method? Did they think the concept is appropriate to the lecture or only a temporary hype without any perspective?

In the end of the lecture an evaluation has been started with several questions. 34 students of 44 (77%) filled out the questionnaire and gave their feedback. Following the question and some representative answers or better personal opinions of the students are shown:

Question 1: *You chose the blogging method on a voluntary basis. Looking back, would you make the same decision and why?*

- Yes, in the end of the semester a get a great overview about my chosen topic.
- Yes, it is much more interesting to write public contributions than essays, which are never seen by anyone.
- Yes, because I like researching with the WorldWideWeb. Furhtermore it is also very interesting to look on other students research work.
- Yes, blogging is fast, simple and nevertheless informative. After blogging a while I loose my fear of posting.
- Yes, but it takes a little time to realize the power of blogging. In the very first beginning I found only less information as in the end.
- Yes, because of the possibility to discuss contributions with other students.
- Yes, I observe a lot of other contributions and I get attentive to aspects which I never think before.
- No, because the contributions are opinions of non-experts.

Question 2: *Do you think that this concept is appropriate to work with a topic for a longer time?*

All students (34) answered this question with yes.

- Yes, there is also a big advantage: The blog can be used as knowledge archive
- The concept was very expedient, because I have to think about the topic again and again.
- Yes, but I must pointed out that this method only make sense if the topics are not about hard facts

- Yes, but I express once again: longer time ...

Question 3: *If you think about both methods, what was the most significant difference?*

- The simple way to make information accessible for others and also to do this with different media.
- I have to work on it all the time and not concentrated at the end of the semester.
- The exchange of information and opinions. You meet with criticism and you are enforced to react.
- I worked on a topic for really one semester.
- Because I have to write at least one contribution per week, even I read the daily newspaper in another way. I always thought about my topic and I was amazed how often I recognize it.
- Mass of information within a very short of time
- Each blogger has his/her opinion and the same topic appears with different aspects.
- A lot of interesting small contributions and a great collection in the end

Question 4: *Please tell us the biggest point of criticism about the blogging concept from your point of view?*

- The topic of the blog should be “broad”, because after some time I found no new information anymore.
- We were enforced to write contributions, maybe this lead to less quality.
- I need an Internet connection to make blog contributions.
- It is hard not to loose the overview, because of the amount of contributions.
- Sometimes I recognize contributions, which were not well researched.
- Because of the publicity of the blog, search engines find my opinions on the web.
- Blogging once a week is stressful.

Question 5: *Describe very shortly the most positive aspect of blogging.*

- Reading and writing continuously
- Overview about a topic
- Flexibility
- You can see permanent new stuff
- I noticed much more about a topic by using the blogging method instead of the traditional essay writing
- Because the contributions are small I read many statements of my colleagues.
- The same topic, but many different perceptions.
- Getting information by RSS Feeds
- Personality
- Comments of other bloggers are very helpful

Question 6: Do you think blogging is possibility for the educational future?

27 of 34 (79%) answered the question with yes and 7 (21%) with no.

## Conclusion

The chapters above showed a very positive feedback for the use of Weblogs in Higher Education. Critical points are of course the publicity of contributions and opinions. Further the mass of information in a very short time frame will be one of the biggest problems of the near future. How can we filter relevant information from all the other chunks?

Interesting from a pedagogical view is, that students often mentioned that the blogging leads to a ongoing learning process. Learners are enforced to work on the topic for the whole semester. Statements like “I read the daily newspaper with more attention” seem to give us hints that informal learning will play an important role in the near future.

However, it can be summarized that the use of weblogs in Higher Education can enhance the learning and teaching process in multiple ways. In the current study students were blogging to a special topic for their own, without strong instructions about the proper content. This didactical approach is very interesting because lecturers are able to observe what students think about a subject dependent from their previous knowledge, their interests, their researches or studies, but not being influenced by some input of the lecturers. In the end the content of the lecture becomes more student-centered, but also more flexible. This scenario of teaching will depend on two crucial factors: The lecturer has to put more effort into collaboration with students and has to respond to their shared content. With other words the content depends on the input of students and will be

modified within a very short time. The second issue is that we have to think about grading these student efforts. Informal learning is very hard to measure, but very important for these kinds of lectures – the journey is the reward is in this case not only a saying, it is a concept.

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