Personal Learning Journal – Course Design for Using Weblogs in Higher Education

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Abstract: This paper examines the impact of weblogs on individual learning processes in a university environment. It outlines experiences with weblogs as an instrument of learning reflection or a learning journal. This paper presents an innovative didactical concept based on the Web 2.0 paradigm and evolving technologies.

Weblogs have emerged with the paradigm of Web 2.0 and user-generated content and have gained in importance through the various evolving application contexts, for example, the transfer of knowledge within enterprises, the communication and exchange of experiences with customers, and even the acquisition of projects by power bloggers. In this paper, weblogs are considered in the specificity of learning journals that focus on two objectives: first, supporting individual learning by means of reflection as the most effective method of individual learning; and, second, multiplying these efforts through interaction and discussion within a group of individuals with common interests. The latter is based on contribution-based pedagogies that maintain that collaboratively creating learning resources and sharing them with others are promising practices through which students can learn. Additionally, it is argued that this style of teaching relates to a growing trend in higher education in which the focus of learning is moving away from building a basic knowledge store and toward emphasizing a wider range of skills.

We successfully applied the weblog approach to several academic courses during which qualitative and quantitative data were collected in an empirical study. This paper reflects our experiences with weblogs as a support for university lectures and is based on four semesters of exploration and adaptation. Within the scope of the research approach of *design research* (Hevner et al. 2004), it provides a structured method to support individual learning processes within a learning community realized by a weblog in the specificity of a learning journal. Verification with students and experts has led to a holistic method through which lecturers and coaches can successfully integrate weblogs into academic courses or even professional trainings. This paper addresses both academic learning and professional education management initiatives. Essentially, it aims at in-house trainings in enterprises, vocational schools, and universities. Interviews with experts will also reveal how to successfully align this method with professional trainings.

In conclusion, this paper suggests a method with which to design a learning environment by means of learning journals to enforce increased individual learning. More specifically, it reveals that learning journals enable the achievement of level three (transfer to and application in the working environment) of *Kirkpatrick*'s (1994) four-level model, which was generated to evaluate learning programs.

Keywords: Web 2.0, weblog, learning log, learning journal, learning reflection, contribution-based theory

1. Introduction

A weblog (usually shortened to blog) is a knowledge sharing technology that enables people to record their thoughts in diary form and publish those diaries as web pages without programming or HTML coding (Du and Wagner 2005). Weblogs have emerged with the paradigm of Web 2.0 and user-generated content and have gained in importance through the various evolving application contexts, for example, the transfer of knowledge within enterprises, the communication and exchange of experiences with customers, and even the acquisition of projects by power bloggers. The case study, *Hain and Schopp* (2008), for example, illustrates the business impact of introducing an enterprise weblog system while simultaneously enforcing the transfer of knowledge and avoiding an information overload.

In this paper, weblogs are considered in the specificity of learning journals or learning logs that focus on two objectives: first, supporting individual learning by means of reflection as the most effective method of individual learning (Baumgartner et al. 2004); and, second, by multiplying these efforts through interaction and discussion within a group of individuals with common interests (Baumgartner et al. 2004, Röll 2005a). The latter is based on contribution-based pedagogies that maintain that collaboratively creating learning resources and sharing them with others are promising practices through which students can learn efficiently (Collis and Moonen 2001). Additionally, it is argued that this style of teaching relates to a growing trend in higher education in which the focus of learning is moving away from building a basic knowledge store and toward emphasizing a wider range of skills (Hamer 2006, p. 40).

We applied this approach to several academic courses. This paper reflects our experiences with weblogs as a support for university lectures and is based on four semesters of exploration and adaptation. Within the scope of *design research* (Hevner et al. 2004, Back et al. 2007), it provides a structured method with which to support individual learning processes within a learning community by means of a weblog in the specificity of a learning journal. This paper thus addresses both academic learning and professional education management initiatives. Essentially, it aims at in-house training in enterprises, vocational schools and universities.

The next section outlines the terms weblog and learning journal and the concept of a weblog in the specificity of a learning journal. Section three describes our explorative research that led to the method with which to design a learning journal environment to increase the individual learning benefit, which is described in section four. The transferability of this method, its limitations and related works are summarized in the conclusion.

2. Weblog in the Specificity of a Learning Journal

A weblog is a journal-like page (post) on a website. While such pages can contain photos or media, they are primarily focused on the ability to effortlessly post written thoughts to a website. The postings are organized chronologically. Normally, others can comment on a weblog post, which therefore facilitates a dialogue on the posting's topic.

As already mentioned, weblogs are emerging in different types and contexts. *Zerfaß* and *Boelter* (2005, p. 5) categorized weblogs as knowledge, service, campaigning, CEO, product, collaboration, customer relationship, and crisis blogs. From this perspective, educational blogs should be assigned with knowledge blogs (Röll 2005b). *Downes* (2004) was one of the first authors to mention blogging in educational contexts by introducing terms like 'edublogging' and 'learning 2.0.' Some authors have discussed different types of weblogs pertaining to education: group and publishing blogs, journals of professional experiences, personal opinion and academic blogs, as well as research and learning journals (Bartlett-Bragg 2003, Baumgartner et al. 2004, Röll 2005a, Groß and Hülsbusch 2005). In most cases, the authors do not differentiate very precisely. Nevertheless, this differentiation presents a general conspectus of weblogs' application possibilities in educational contexts.

As such, a learning journal or learning log is a systematic way of documenting learning and collecting information for self-analysis and reflection (Kerka 1996). However, a weblog is also an appropriate technology to apply when aiming at achieving interaction and discourse as it has various functionalities that support the essential human linkage and interaction. *Röll* (2005a) outlines the three roles that learning journal weblogs can adopt: as an information or knowledge storage, a reflection medium, and a discourse medium. As an information storage, a weblog enables learners to summarize und aggregate contents that may only be realized by hyper linking them. In addition, due to a full-text search is possible, the content need not be stored in a well-structured way (Röll 2005a).

As reflection and discourse media, learning journals are rather didactical approaches that can be realized by means of weblogs. Both reflection and discourse media are strongly dependent on the design of the learning environment. Reflection has been defined as a process of turning experience into learning (Boud 2001, p. 9). Some researchers argue that reflection is the highest level of individual learning (e.g., Baumgartner et al. 2004, Bartlett-Bragg 2003, Boud 2001) and learning journals are, moreover, used for self-reflection. The learner therefore externalizes new knowledge in weblog posts. Afterwards, the learner can refer to these posts and build on already learned knowledge assets. Simultaneously, the individual learning process is documented and may later be analyzed meta-cognitively (Röll 2005a).

To gain more insights into their learning process, individuals either have to network and communicate with others (discourse), or put their knowledge into action (Bartlett-Bragg 2003, Baumgartner et al. 2004, Du and Wagner 2005). This is in line with contribution-based pedagogies. Since weblogs are available to everyone, they can be used to discourse with others. Learners are thus offered opportunities, first to verify their thoughts by comparing them with other learners' weblog posts; second, to comment on other posts; and, finally, to discuss common topics by referring to other posts (Böttger and Röll 2004, Röll 2005a). The latter is traceable via the trackback function, through which an author is informed if somebody has cited his post. However, this is only possible if the referring person includes the hyper link in the new post.

3. Empirical study

It is important to design an appropriate environment that will generate the conditions required to increase individual learning success to attain the effective reflection and discourse stages. Consequently, this study provides a framework that outline how learning journals can do so successfully. Table 1 provides a review of our four-semester long explorative investigations.

The study resulted from data obtained from three different courses over four semesters: Information Management, Instruments of Knowledge Management (twice) and Knowledge Management. The last three semester courses were presented at the University of St. Gallen (HSG) in groups of about 10 Bachelor undergraduates. Furthermore, all the courses were presented as regular lectures. In the first stage of the study, the posts that the students had to write were very strictly defined regarding their content, length, and the number of postings. These restrictions emphasize that students seem to be overwhelmed by a pre-defined amount of work, especially if, as in the case of the learning journal, this work is not the main task in their course. Later, we decided to reduce the number of posts and also offered the students a wider choice of lecture topics on which to provide posts. Subsequently, these measures proved to have a strong impact on the students' level of satisfaction.

Wagner developed a 5-point schema with three interdependent dimensions to evaluate the quality of a weblog post: content (2 points), networking (2 points), and technology (1 point) (Du and Wagner 2005, Wagner and Back 2006). Content is the most important perceived value of a weblog and comprises facts, experiences concerning the relevant topic, individual reflection, and reflections in dialogue. The reflection criterion, especially in dialogue, provides a link to the networking dimension. Networking is characterized by internal or external web resources, as well as links to other students (blogroll) or reflective dialogues, and/or conversations (links in the text itself). Finally, the technology dimension focuses on designing the personal weblog in terms of layout (e.g., style, pictures, personality) and activated functions (e.g., polls, music, blogroll, RSS, tag cloud, chat). This dimension does not, however, seem to be relevant for individual learning processes. Nevertheless, visual cognition and user interaction increase the value of the content (Du and Wagner 2005).

In her study, *Bartlett-Bragg* examines a similar model called the 5-stage blogging process (Bartlett-Bragg 2003). This maturity model represents five levels of blogging behavior: establishment, introspection, reflective monologues, reflective dialogue, and knowledge artifact. Both *Wagner* and *Bartlett-Bragg* reveal that individual reflection is important, although communication with other individuals is of more benefit for individual learning processes.

The main objective of our research during each of the last three semesters was to stimulate the students to fulfill the three dimensions (content, networking, technology) regardless of whether their posts were graded or not. If this could be achieved, it would be possible to assume that weblogs could have a positive impact on individual learning. However, the successful application of weblogs in academic courses requires a holistic method with which to design a learning journal environment. Among others, such a model has to specify the role of the coach, the dramaturgy of the course, and additional instructions that the students require.

Table 1: Empirical basis - exploration and adaptation of the method

	Semester 1 (05/06)	Semester 2 (2006)	Semester 3 (06/07)	Semester 4 (2007)
Course	Information Management (Wagner, CityU Hongkong)	Instruments of Knowledge Management (Univ. of St. Gallen)	Knowledge Management (Univ. of St. Gallen)	Instruments of Knowledge Management (Univ. of St. Gallen)
Student degree	Bachelor	Bachelor – profes-sional competence (Economics, Law, Business Admin.)	Bachelor (Economics, Business Admin.)	Bachelor – profes-sional competence (Economics, Business Admin.)
Number of students	70	10	4	13
Number of lectures	10	10	9	8
Assignment	10 posts (after each lecture)	8 posts of the possible 10 (6 days after lecture)	6 posts of the possible 8	4 posts (pre-defined lectures with one optional post)
Content	Reflection of course content	Reflection of course content (guest lecture, student presentations),	Reflection of course content	Reflection of course content (guest lecture, student presentations), experiences with KM Instruments
Technology	www.xanga.com	www.blogger.de	www.blogger.com	www.blogger.com
Qualitative evaluation	5-point schema (Wagner and Back 2006)	No extrinsic push	No extrinsic push	No extrinsic push
Quantitative evaluation	-	Oral participation	Oral participation	Oral participation
Dramaturgy	▪ Increasing requirements for good grades	▪ Scaffolding ▪ Assign continuous posting	▪ Scaffolding ▪ Assign continu-ous posting	▪ Scaffolding ▪ Assign posts to selected lectures
Instructions	▪ Assignment	▪ Assignment ▪ "How to write good blog posts" (do's and do not's)	▪ Assignment ▪ "How to write good blog posts" (do's and do not's) ▪	▪ Assignment ▪ "How to write good blog posts" (do's and do not's) ▪ "Learning Waves" vlogs (Wagner and Back 2006) ▪ Recent learning journals ▪ Tuning the blog with technical add-ons
Interaction of coach	▪ Feedback at course	▪ Scaffolding: ▪ Feedback on the course ▪ Lesson learned from the coach blog ▪ Comments on student blogs	▪ Scaffolding: ▪ Comments on student blogs ▪ Feedback on the course ▪	▪ Scaffolding: ▪ Feedback on the course ▪ Hints and motivation on the coach blog ▪ Comments on student blogs

4. Designing a learning journal environment

Based on our explorative research, this section describes a method for designing a learning journal environment to increase the individual learning benefit. In this approach, ICT or, more specifically, weblog technology is used as part of a blended learning initiative, which implies that the academic, the lecture itself, and additional learning materials can definitely not be substituted by the use of blogs. First of all, the academic takes on the role of coach. A key aspect of coaching is providing scaffolding, which comprises the support (in the form of advice and reminders) that learners require to approximate the execution of an entire

range of skills. Once the learner has grasped what the target skills are, the coach reduces his participation (fades), thereafter only providing limited advice, refinements, and feedback while the learner practices the smooth execution of the entire range of skills (Collins et al. 1987, Reusser 1995).

Figure 1 presents the assumed relation of the method (below) and its impact on the individual learning curve (above) over one learning period (semester). In this research, the amount of increased learning cannot be quantified, although we have determined that the amount can be influenced positively through: first, the motivation of the learner; second, the ability of the coach to motivate and support; and third, the established dramaturgy of the course.
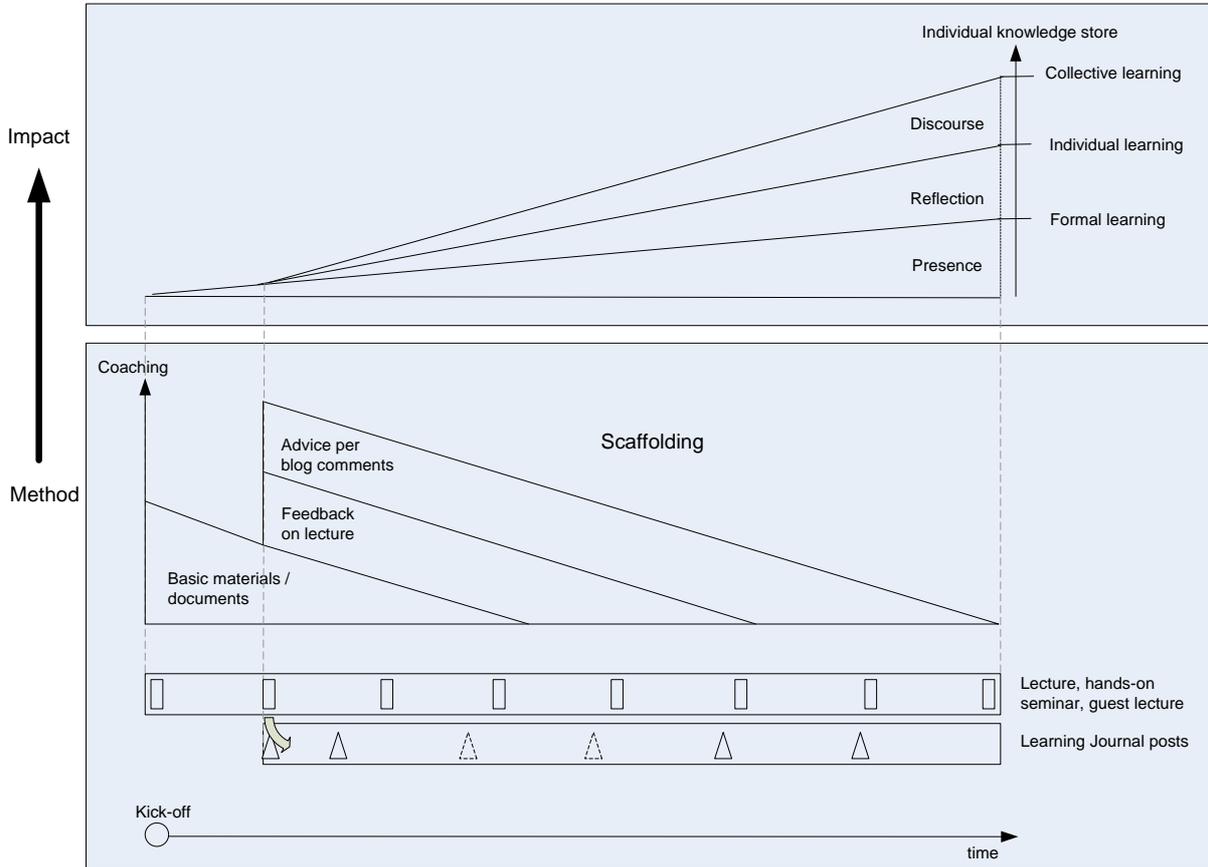
Figure 1: Learning journal method and impact

Motivating learners starts with the kick-off event of the cyclical lectures. The coach clearly communicates the expectations and requirements, the learners are introduced to the idea of learning journals, and are made aware of special aspects like the quality of a weblog by, for example, presenting extracts of the vlog series "Learning Waves from Hongkong" (Wagner and Back 2006). Moreover, the coach imparts his experiences of recent courses, as well as providing the students with the learning journal assignment (LJA) and the relevant deadlines. The course dramaturgy is designed to facilitate flexible handling of the learning journals posts, as well as to quantitatively (not qualitatively) decrease the learners' required efforts.

The second lecture initiates the first post: The learners should be introduced to the weblog technology in a hands-on seminar to keep those learners who are less skilled at technology engaged in the course. In addition, the learners should be informed about weblog etiquette and equipped with the URLs of the recent courses. Subsequently, the learners should be provided with frequent (fading) reminders, such as vlog "learning waves," via feedback during lectures or personalized advices via weblog comments. Students are not forced to generate qualitative best posts, but are coached to keep the three dimensions – content, networking, and technology (weighted according to the 5-point schema (Du and Wagner 2005)) – in mind.

Essentially, we successfully integrated this method into academic courses and provide evidence of this method's positive impact on individual learning processes. However, we also discovered that the realizing of the networking dimension, especially the interaction and discussion between the students, differed during the various semesters and seems to depend on each learner's motivation. A major problem was that students often only posted on the publication deadline, which meant that other students did not have the opportunity

to comment on this post or compare it with their own impressions. During the current semester (2008), we have found that the introduction of a feed reader or RSS reader (Heidecke 2008) positively affects the students' interaction. Hence, they are less tied to the publication deadlines and they are pushed by the information that somebody has interacted (commented or posted) on someone else's blog. This has led to an immensely improved cross linkage. Recognizing the benefits (e.g., problem solving within a few hours) of this interaction, the students are increasingly committed to write their blogs posts.

5. Conclusion and related work

This paper describes a method with which to design a learning environment using learning journals to enforce increased individual learning. More specifically, the paper reveals that learning journals enable the achievement of level three (transfer to and application in the working environment) of Kirkpatrick's four-level model that was generated to evaluate learning programs (Kirkpatrick 1994). Some authors maintain that attaining the third level is proof of a professional learning program's effectiveness.

The characteristic of this learning environment comprises several factors: First, the course consists of several presence modules arranged over a period of time. Furthermore, the learners act within a restricted scope in terms of a learning content, as well as the number of involved learners. Analogous to a community, the learners are divided into a fixed group with common goals and assigned to a special topic for a restricted period of time. Hence, under these specific restrictions, the transferability to professional trainings is possible.

In further research, interviews with experts will demonstrate how to successfully align this method with professional trainings. In addition, the empirical foundation should be analyzed in more detail to determine precisely how different course dramaturgies affect learner motivations and the individual learning curve. Furthermore, the method should be illustrated and extended, providing information on the roles, issues, documents, etc.

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