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Teaching and Learning Podcasting through Blogging

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Abstract

This article reports on an online workshop which was held in October 2006 on the topic of contemporary web 2.0 technologies. The workshop was a part of the European project eLene-Teacher Training. The workshop was organised by two teacher educators in Sweden and 33 participants was enrolled from eight countries in Europe. The workshop took place during one week on the Internet in a blog environment. The workshop is analysed from both a pedagogical and technical perspective. The workshop is evaluated with a questionnaire, analysis of blog posts and podcasts and through reflections from the teacher educators. The result indicates that the technical aims were reached i.e. the participants learned to create podcasts and learned to blog. The pedagogical aims suffered from difficulties to discuss for example attitudes to publishing content on the Internet. Instead pedagogical issues should be raised by the participants.

Introduction

Teaching with Information and Communication Technologies (ICT) has changed education in both the school system and in higher education. For example, teachers and students can make use of the benefits of new technologies in distance education and through blended learning. Benefits could be described in terms of flexibility and ubiquitous learning (Mogren, 2006). New, emerging technologies have an impact on teaching and learning in terms of how we teach and use these technologies. But what if we combine two well-known web technologies such as podcasting and blogs? The authors of this report, both working as teacher educators at the Department of Interactive Media and Learning at Umeå University, explore the question in this report.

The report presents a study in which the aim is first to explore if it is possible to construct a learning environment with open source and free software that is accessible on the Internet. The second aim is to evaluate a particular workshop for academic staff such as teachers and tutors with a generally good ICT literacy. Furthermore, organisation and planning of this particular workshop will be described.

In order to evaluate if the purpose had been achieved, the following questions were asked:

- To what extent have the technical and pedagogical goals been achieved?
- What can be further developed in the workshop from a technical perspective?
- What can be further developed in the workshop from a pedagogical perspective?

The workshop, ‘Combining podcasts and blogs, is it possible?’ was conducted as part of the eLene-Teacher Training (TT) project at the Department for Interactive Media and Learning at Umeå University.

1 The eLene-TT project consisted of a group of nine European partners. Partner universities were Umeå University (Sweden), the Canègé consortium (France) consisting of the universities of Nancy 2, Paris Sud and...
Umeå University in Sweden over a period of eight days in October 2006. It was developed by means of open source and free software, and from the perspective of combining practical and theoretical work with technology. The main purpose of the workshop was to train academic staff in using podcasts in education and to understand how technology in general can be used. Another purpose was to provide teachers with the experience of being a student and of being able to understand problems from the student’s point of view. This was achieved, for example, by using new software, taking part in the implementation of new technology and understanding assignments in this context. Also, the aim was to inspire teachers to think creatively about how, why and when technology can be used in educational settings and to encourage them to further consider the role of the teacher.

The decision to use blogs in the workshop builds on experiences from the Department of Education at Helsinki University, member of the eLene-TT project, which managed a workshop called ‘How to teach with the web’, where guest teachers discussed the use of weblogs (blogs) in higher education during spring 2005. Another reason was that blogs, commonly used in society, are a frequently used vehicle for collaboration and sharing content and thinking. The website Technocrati (http://www.technocrati.com/) has statistics of blogs and currently shows that 57.4 million blogs were registered (2006-10-27). A third reason was the importance for staff in academia to explore the power of blogs and podcasting, and to consider how they can be used in educational settings.

Definitions

Several key concepts are used in this report and we draw particular attention to Web 2.0 and how it could be described in terms of different functionalities and terms. In the final part of this section of the report we also consider and define our own role in the workshop.

Web 2.0

Web 1.0 was characterised by individuals creating and maintaining websites and content. MacManus & Porter (2005) argue that websites in this context are created for reading. With Web 2.0 we have moved the web and users are allowed to create content and can now both read and write (MacManus & Porter, 2005; Richardson, 2006). However, from a pedagogical perspective it is important to understand content at the level of micro content (MacManus & Porter, 2005; Downs, 2006.; Alexander, 2006). One example of micro content is a blog post; a comment or a podcast. Micro content serves as a service that could be connected to other domains. One purpose is for content that has been created in one place by one particular user to become transformed, shared and remixed by other users. The new tools and resources that Web 2.0 can offer to support teachers are not a technological revolution per se, but rather a social revolution (Downs, 2006). Note that according to O’Reilly (2005) there is doubt about Web 2.0. One important aspect to consider, is that many of the new tools that are used are notions of open software, free or low-cost (Richardson, 2006). Many or most of these tools are free to use (see for example flickr.com, del.icio.us, Gliffy.com, Cmap.com).
Social software

The main characteristic of social software is that it connects people, providing a space where they can interact and share ideas and experiences. Social software is often seen as a feature of Web 2.0 and can be described as tools that are used to communicate in different settings such as: one-to-one (e-mail), one-to-many (blog) and many-to-many (wiki) (Wikipedia, 2006; Tappert, 2003). An important function of social software is that it helps us to collaborate with other people on the web. Richardson (2006) argues that the toolbox for the teacher contains weblogs, wikis, RSS, aggregators, social bookmarking, online photo galleries and audio/video casting. Perhaps the most commonly known social software are blogs which are used for discussions. A wiki is often described as a tool for support group work and knowledge building, and as a help for structuring information. Podcasting is also explained by Alexander (2006) as social software.

RSS

One explanation of the acronym RSS is real simple syndication; however, there are different explanations related to different versions of RSS (Wikipedia, 2006). RSS could be used in two main ways: as software that produces a feed, or as a receiver who subscribes to the feed. Thus, RSS makes it possible for readers of a blog to subscribe to the content (Richardson, 2006). The technology behind the blog is supported by XML and enables users to subscribe to content from blogs. This could be explained as “the content comes to you instead of you going to the content” (Richardson, 2006, p.75)

With the support of RSS, teachers and students can subscribe to a number of different information sources without the need to frequently visit each website to access the desired information.

RSS aggregators and readers are software applications that can be downloaded freely. A RSS aggregator is a client side software application (see for example http://www.rssreader.com/) used to receive web content via web feeds such as weblogs (blogs) and podcasts. D’Souza (2006) explains that users ‘pull’ the content when subscribing to a feed. Similarly, aggregators can replace the need for regular checks on websites by pulling out the content. Once subscribed to, the aggregator will keep the user updated (Wikipedia, 2006).

Blogs

Blog is a commonly used term, and is an abbreviation of web log (Barlett-Bragg, 2003). A blog is a dynamic web page through which the content can be developed by both author(s) and readers if, for instance, comments are allowed. It is possible to subscribe to content from most blogs. There are different types of blogs with different purposes and content. A blog can be associated to one blogger, with the community responding to the blogger. A blog could also belong to a community, with bloggers responding to a specific topic. Blogs can either be hosted by an individual or by a company as a service. When blogs are hosted by a company, they can either carry a cost or be free to use if you choose to have advertising on your blog (see for example http://webblogs.se/info/english).

One essential feature of blogging, both within educational settings and in daily life, is that what is written, are expressions of individuals. Richardson (2006) argues that blogs engage readers to contribute with links and with comments on a topic. The opportunity to support reflection in educational settings is another feature commonly recognised within the blog sphere (Richardson, 2006; Barlett-Bragg, 2003). It is suggested that the intention with using blogs in education is to take learning further; from the surface to deeper levels of learning (Barlett-Bragg, 2003).
Podcasting

Podcasting was a development from web broadcasting through which radio programs were published on websites with the purpose of giving users the opportunity to listen whenever it suited them. Podcasting is a technology to make digital content easy to subscribe to and shared. A podcast is defined as a “multimedia file distributed over the Internet, using syndication feeds for playback on mobile devices and personal computers” (Wikipedia, 2006).

Richardson (2006) describes podcasting as a simple-to-use technology. He argues that the only equipment needed is a digital audio recorder, space to store the created file and a blog. Accordingly, it should be very easy for teachers and students to produce their own podcasts.

The use of podcasting in education seems to be connected to subscribable content (Richardson, 2006; Ractham & Zhang, 2006). Universities have developed podcasting solutions for the same purpose (see for example http://www.classcaster.org). With this approach to podcasting, the purpose seems to be to give the students more flexibility in their studies; if they miss a lecture there is still a possibility to listen to it using iTunes (http://www.apple.com) or another software application that plays media files (for example MP3).

Combining Podcasting and blogs

The blog, in combination with podcasting, is one example of the use of tools to communicate. In this communication participants use their intellectual tools with both their written text and through their voice via recorded audio podcasts.

Teacher Trainer or Teacher Educator?

The terms teacher trainer and teacher educator reflect different traditions in the field. Hallman (2003) highlights two traditions within teacher education; a practical tradition and a university professional tradition. Erixon Arreman & Weiner (2003) argue similarly when discussing seminary ‘trained’ primary teachers and university ‘educated’ secondary teachers. On this basis, a teacher trainer is viewed as someone more practically oriented and a teacher educator as someone more academically and research oriented. The project is named eLene-Teacher Training and it is a practical project. The technical and pedagogical parts of the workshop were constructed through academic literature and experience. From that point of view the role of the workshop moderator is more a teacher educator role.

Theoretical and methodological considerations

This section presents theoretical considerations related to the workshop on combining podcasts and blogs. As mentioned earlier, workshop participants were supposed to learn and work together, but also to use software applications to facilitate flexible learning. Consequently the sociocultural perspective became important, as well as the notion of ubiquitous learning; not only for framing the workshop, but also for our understanding of the outcomes of the study.

Learning can be understood from different theoretical perspectives. When working in an ICT context, a pedagogy grounded in a sociocultural perspective on learning is commonly used. (see for example Säljö & Linderoth, 2002). This perspective combines three key components: physical tools, intellectual tools and communication (Säljö, 2001). A computer can be seen as a physical tool, while the written text and spoken language are examples of intellectual tools. With the
support of these tools it is possible to communicate in interaction with others. Furthermore, Säljö (2001) explains that the tools can also help us to mediate the world around us.

From this sociocultural perspective on learning, “culture” can be understood as knowledge shared and developed between people in collaboration; to describe and understand what knowledge level a group has reached and what level we can help them achieve through problem-solving activities. The notion of zone of proximal development (ZPD) can be helpful (Vygotsky, 1978).

Another useful and commonly used concept in the context of ICT and learning is ubiquitous learning. It refers to flexibility in education, i.e. learning content that is always accessible. This kind of learning is facilitated by wireless and mobile devices such as PDAs, notebooks, mobile phones and iPods (Chang, Sheu & Chan, 2003; Mogren, 2006). So, with this kind of technology the student has the opportunity to download or synchronously utilise learning material whenever he/she wants to.

The workshop

The workshop took place October 9 – 16, 2006 and was flexible in time and space to enable participants to combine it with their daily work. Participants were invited by the eLene-TT partner universities and the aim was to train teachers from higher education to use podcasting in educational settings. When participants applied for the workshop, they were informed about the software and competences they would need to participate in the workshop.

Before the workshop started, instructional films were produced by Lindwall & Vinnervik (2006) and distributed as podcasts. The films introduced the following subjects: podcasting, RSS, how to subscribe content, how to record audio, practical use, examples of podcasts in educational settings and finally an explanation of what a podcast server is.

The workshop was planned and divided into two sections: Firstly a technical section and secondly a pedagogical section. Each section had its own learning goals that were set up by the teacher educators running the workshop. In the technical section the participants were expected to learn how to use the technology of podcasting with the support of instructional films. The purpose of this section was for participants to understand what type of software is needed to produce a podcast, learn how to subscribe to and submit podcasting material and learn how to produce and publish a simple podcast. It was decided that the participants would only focus on the production of audio podcasts as it is simpler to produce only audio, and as the focus was on combining podcasts and blogs. Three topics were discussed with the support of a blog. The blog functioned as an arena for collecting both podcasts and blog posts.

The first two days were technically oriented and devoted to practical work and the production of podcasts. The participants were instructed in how to download the software iTunes in order to subscribe and listen to podcasts, how to use Audacity to record audio, and with the support of the LAME encoder, export the produced wave files to MP3 file format.

The next five days were pedagogically oriented. This section of the workshop was aimed at discussing pedagogical issues within podcasting in higher education. The workshop participants discussed three topics: attitudes and arguments for publishing content on the Internet, discussions and sharing of ideas on how to use podcasting in teaching and learning with the support of their new experiences, and whether podcasting as a technology fulfils a purpose for ubiquitous learning. These three topics were constructed by the workshop leaders, i.e. the teacher educators.
Evaluation

In order to evaluate the participants’ understanding, data were collected by means of a web based questionnaire. As the workshop participants came from nine different countries, a web based questionnaire was considered the most convenient way of collecting data. Questions were constructed as multiple choice and scaling questions with comment boxes. The evaluation was aimed at all the participants in the workshop. The questionnaire was voluntary and answers were anonymous. A week after the end of the workshop an e-mail with a link to the evaluation was sent. The questions were aimed at evaluating the experiences of the workshop from the following perspectives: the extent to which learning goals had been achieved on both a technical and pedagogical level; whether the software was easy to use; and an estimation of the participants’ attitude towards podcasting both before and after the workshop, as well as their impression of the workshop from a generally holistic perspective. In some questions an extension scale between one and seven was used; with a score of one indicating that the person did not agree with the presented statement at all. A four indicated neutral, which means that they agreed that the statement had been reached, but nothing more. A seven showed that the person was in complete agreement with a statement. Teacher educators’ reflections were collected through discussions and with support of the written evidence gathered in the blog during the workshop.

Informants

The participants were invited through the eLene-TT partner universities and 33 applications were received for the workshop. In the end 14 participants attended the workshop: seven women and seven men. There was no selection of participants. The participants were aged between 39 and 50, and were from Sweden, Italy, France, Spain, Poland, the Netherlands, Finland and Croatia. There were no physical meetings during the workshop and all interaction was carried out using a blog as a learning space.

In the design of the evaluation, the guidelines of HSFR (Humanistisk-samhällsvetenskapliga forskningsrådet, i.e. The Swedish Council for Research in the Humanities and Social Sciences) were considered. The participants where informed about the study through guidelines on the use of the blog and the presentation of information. The informants were asked to answer a questionnaire for a report.

Considering the relatively small number of informants and the fact that the study was carried out during a limited period of time, the results are not to be seen as an attempt to make generalisations. Instead, it is to be seen as an example of how to run a workshop with emerging technologies and what can be learnt from that particular example.

Technical framework

The workshop required specific software for both participants and teacher educators. A short description of each software, divided for use by either participants or teacher educators, follows below.

Software for producing podcasts

With several participants using different platforms and with different restrictions for downloading and installing software, it was important to use appropriate technology for
producing and aggregating podcasts. The chosen software had to be reliable, free of charge and web based.

In order to subscribe to, watch and listen to podcasts, iTunes (http://www.apple.com) was chosen as both media player and RSS aggregator. With this media player/aggregator it is possible to pull several formats of media such as audio (MP3), video and multimedia (MP4) and even text documents (pdf). iTunes was chosen as the appropriate software to use for delivering the instructional films and content from the blog as it supports several file formats and is available for Windows as well as Mac OS X.

To record audio the open source software Audacity (http://audacity.sourceforge.net) was used and the Lame encoder (http://lame.sourceforge.net) was used as pod-producing software for PC users. For Mac users, pod-producing software comes with the computer.

Software for content

The blog tool WordPress (http://WordPress.org) was chosen for managing the workshop discussions and was installed by the teacher educators in charge of the workshop. WordPress was chosen for a number of reasons: It is freely available, well-tested open source software which is highly reliable and continuously developed. Furthermore, building on our own experience, it is easy to set up and easy to manage. It also produces RSS feeds and provides a plug-in for podcasting. However, to use the blog for posting media files, some minor changes had to be made for file uploading.

![COMBINING PODCASTS AND BLOGS](image)

Figure 1. The figure shows a screen shot of the WordPress blog.
The above figure shows a screen shot of the WordPress blog created for the workshop. At the centre of the page posts or pages are displayed. On the right side users can navigate, search for micro content (e.g. a blog post) and find links to guidelines for blogging as well as manuals for the workshop.

The blog was used by teacher educators and participants to post media files and to post reflections as comments to posts. It was also used to describe the assignments, to provide manuals on how to use the blog and to give participants technical tips and pedagogical guidance. The blog was configured so that participants had to log in before posting comments. Each participant in the workshop was registered as an author in the blog, which enabled them to both write and upload podcasts. Only authors and teacher educators were able to post on the blog, which was open for readers.

**Podcast plug-in**

A WordPress plug-in PodPress was used to facilitate the combination of podcasting and blogging and to enable audio files to be played in a web browser. This plug-in is easy to configure and creates a RSS feed for the audio content in the blog.

![Welcome](image.png)

**Figure 2.** Screen shot of the plug-in PodPress and the built-in media player.

The above figure shows a post in the blog with a header followed by the date when posted and a short text on the blog introducing the podcast. The control makes it possible for the user to start and stop the audio file. There are links at the bottom for a number of options.

**Analysis**

In this section, results from the evaluation will be displayed; technical goals, pedagogical goals and teacher educators’ considerations. As said earlier, the results are to be seen as examples of how to run a workshop with emerging technologies and what can be learnt from that particular example.

The questionnaire was answered by 64.2% of the participants (N=14); five women and four men. One question in the evaluation concerned how the participants estimated their attitude to podcasting before the workshop and the overall attitude was considered to be rather neutral.
The above figure illustrates the frequency of posts and comments made by participants during the workshop. This shows that most postings were made from Monday to Wednesday. During Monday and Tuesday the participants were active, producing and publishing podcasts. Each new participant who produced a podcast was welcomed by a teacher educator, which can explain the amount of comments on Tuesday. Other comments related to technical issues following some technical problems with the WordPress blog. There were few new comments or posts by participants between Thursday and Friday. Most of the time was spent on learning how to use the technology and little interest was shown in pedagogical discussions.

**Technical goals**

One purpose of this study as outlined in the beginning was to find out how well technical goals were achieved in the workshop, i.e. how the participants were able to create, publish and subscribe to podcasts. To explore this, participants were asked to estimate how well they attained three different, technical sub-aims of the workshop (see Figure 4 attached). Looking at participant responses, the technical goals were achieved very well.
The above figure illustrates the extent to which participants estimated they had reached the technical goals. First, second and third goals were reached to a high extent. First and third goals are coherent from a perspective to produce. Results related to the third goal indicate that the technical part worked well when participants were producing podcasts with Audacity and Lame. It is coherent with the first goal because participants had to have an understanding of what type of software was needed. Goal three is also about publishing. The software WordPress with the PodPress extension are tools used to publish, collect and arrange the content. Two participants commented that they had problems and difficulties with the blog. For example:

“Tried to participate in discussion on blog, but my comment never appeared. The blog was not the simplest one to use when writing a message.”

The results show that for some users the WordPress blog can be difficult to master. The second goal did not achieve the high marks of the first and third goals, which indicates that it is more difficult to understand how to subscribe to content from the blog.

**Pedagogical goals**

Another purpose of the study was to find out how well pedagogical goals were achieved in the workshop, i.e. how did participants find their own arguments for publishing content on the Internet and how did they learn how podcasting can be used as a tool for teachers and students in their learning. Furthermore, how did participants develop their knowledge and personal arguments in respect of podcasting if it works for ubiquitous learning. To explore this, participants were asked to estimate how well they attained three different pedagogical sub-aims of the workshop (see figure 5. attached).
Figure 5. The figure illustrates the extent to which participants estimated reached pedagogical goals on a graded scale (1=not at all, 4=neutral, 7=completely).

The above figure shows to what extent the participants estimated that they had reached the pedagogical goals. The result shows that participants did not reach them as well as the technical goals. The first goal indicates that most of the participants are open for publishing content on the Internet. The answers of the second goal separates the participants in two groups: those who were positive and those who could not see podcasting as a tool for teaching and learning. The third goal was less successful at developing the participants’ knowledge of the use of podcasting to learn anytime and anywhere.

The lower values on the pedagogical section of the workshop can be explained in terms of ‘too much to do at work’ and ‘the workshop was too short’. For example:

“Unfortunately I was not able to participate in the discussion because of overwhelming obligations in my office during the second part of the workshop. For me personally, the workshop was too short, and because I was engaged in other duties in the few days that the workshop lasted, I could not proceed with the activities after that.”

The third goal is highly complex as the participants have to connect their experiences to the concept of ‘ubiquitous learning’ which is a part of the workshop literature.

**The workshop from a holistic perspective**

The participants were asked to evaluate the workshop from a holistic perspective. The holistic perspective could be explained as their all-embracing feeling of the workshop, combining podcasting and blogs (see figure 6).
Figure 6. The holistic value of the workshop on a graded scale (1=Negative, 4=Neutral, 7=Very positive).

The preceding figure illustrates to what extent the participants were positive about the workshop. Eight out of nine participants were positive about the workshop. Five participants made comments on this topic which were both positive and constructive. Some of the participants agreed that the workshop was interesting both in form and content, and that it provided the confidence to produce a podcast. Critical voices were raised concerning too little activity in the discussion, limited feedback on posts and that the three topics of discussion could have been clearer. Some participants struggled with the blog due to uncategorised comments which made it hard to find comments and discussions that were spread over too many threads. This indicates that the use of RSS and its benefits was not successful.

**Teacher educators’ reflections**

Our own reflections from a technical perspective are that the workshop worked rather well. Participants published their podcasts and in some cases a few participants had technical difficulties. The usability of the blog when uploading files was a problem. The upload function of files could have been easier. There were many steps and the instructions had to be followed carefully. For example, when uploading a file, meta information had to be added correctly otherwise the file would not be attached to the post.

Problems with the RSS feed occurred during the workshop. There was a problem to reset the number of podcasts shown in the subscription list in the aggregator. This led to a decision to manually publish all the participants’ podcasts in an alternative feed. At the end of the workshop the blog responded slowly to commands.

From a pedagogical perspective we think the function of sharing and publishing content in the blog is valuable. Participants used hyperlinks to spread and share different resources, outputs from work and experiences. The discussions were rather diverse and comments or posts became uncategorized, resulting in many comments and posts being hard to find and to collect all micro content.
Furthermore, participants gained experience in both video casting and audio podcasting.

We also observed that participants raised a number of questions in posts. These questions were seldom answered or commented on. There was no dialogue. This raises questions about how the teacher educators should act when dialogue suffers and how teacher educators should moderate discussions when activity is expected to be 24 hours a day.

Discussion

The participants were most active during the first two days of the workshop. One purpose of the use of Web 2.0 technology was to make it flexible and not dependent on time. Even if the technology gave the participants the possibility to be active whenever they wished, there seemed to be a problem finding the time to work on these activities. This technology is designed to help bring people together. However, building on the results of this study, there are concerns about how easy it is to follow three separate discussions simultaneously. If it is hard to find micro content; perhaps because participants consider it is too time consuming to search for the threads in the topics. The results are contradictory on this question because the technical goal of subscribing to content was reached rather well. From this perspective, RSS could have helped to avoid this problem. If participants had subscribed to content from the blog, the content would then have come to them automatically. From this point of view, RSS may be one of the most important Web 2.0 technologies to help users with different skills to find content in content rich information spaces.

Alexander (2006) describes both blogs and podcasting as social software. Tappert (2003) and Wikipedia (2006) suggest that the blog has the potential to connect people. In the workshop the blog served its purpose of bringing the participants together, but with 14 people uploading content, some problems occurred. The social aspect of podcasting is that podcasts are designed to be shared among people. It was possible for participants to subscribe to the posts, podcasts and comments from the blog from two different RSS channels. The results indicate that the participants have learned rather well how to subscribe content, but there is however a contradiction since the results do not reveal anything about how well they then can find and use a comment. On this subject it is worth reflecting on the role of the software iTunes that is used to subscribe to RSS. Participants were less in agreement on the second goal than on the others, which could indicate that teacher educators have to put more effort into supporting the participants’ understanding of RSS in iTunes.

The software application used to create the podcasts was open source software and free to download. This software has been easy to use and has been distributed on the Internet and viewed on personal computers. The participants’ position is that it is easy to use. The results also indicate that Audacity with the Lame extension has been easy to use to produce the podcast files.

Even though the workshop was designed in such a way that participants had the opportunity to use tools that enabled them to work and learn anytime and anywhere, they needed to have some knowledge of these devices. The technology of podcasting is a ubiquitous technology and the content from the blog could be subscribed to using iTunes and viewed using a laptop or MP3 player, enabling the participant to view it anytime and anywhere. This is described as a key feature for use in education (Richardson, 2006; Rachtam & Zhang, 2006). The purpose of the pedagogical discussion topics was to take the practical experience further. According to Barlett-Bragg (2003) the intention of using blogs in education is to take learning further. This did not work particularly well in this workshop. It has been a problem to discuss the pedagogical issues. Mogrens’ paper (2006) was barely referred to in the few discussions that occurred. The pedagogical discussions consisted of a few threads and were uncategorised in many cases. We
argue that a blog engages readers to contribute with links and contents. In this case we were successful when participants started to share and give examples.

The instructional films were created as video podcasts with the purpose of giving the participants multiple views of podcasting when they are producing audio podcasts. The pedagogical argument for choosing this media was not clearly explained. One perspective on further development of the material is that audio content allows the listeners to create their own images, and that the content is easier to change afterwards.

The challenge for forthcoming workshops would be to consider how to engage students to participate in pedagogical discussions. Only on one occasion did a participant ask a question that led to a discussion. Even though this was only a single instance, it forms an important example for participants to identify an area of interest that increases knowledge within the group when other participants share their comments. Vygotsky (1978) argues that problem-solving activities can help a group reach new levels of knowledge. We suggest that this is a good example of the potential of blogs and that participants have their own experience to create questions from.

The podcasting technique must be transparent. If this technology is to be used widely, podcasts should be possible to download to any hand-held devices such as cell phones, media players and hand-held computers. The development of RSS aggregators and Wi-Fi in cell phones are signs that indicate the direction of future developments.

Finally, the results show that it is possible to create a workshop with open source and free software, and to combine two technologies. It is also possible to connect participants from different geographical areas without previous knowledge of their equipment and platforms at a low technological cost.

**Conclusions**

On the whole we can confirm that the participants reached their technical goals to a great extent and that it is possible to learn podcasting in a blog environment. From a technical perspective we suggest the following developments and changes to future workshops:

- The open source solution with WordPress and PodPress is unstable and for future use a more stabile technical solution needs to be found.

- When choosing a blog tool for a multiple user context, scalability has to be taken into consideration for good functionality.

- The software for aggregation and recording has worked very well and could be recommended for other courses. This application is easy to install and easy to apply.

- If teachers have problems when starting up a blog at their department, external resources could be used; for example Podomatic (2007) (produces both media files and RSS-feed) and OPML Workstation (2007) (creates a podcast from PowerPoint, both media files and RSS feed).

It can be said that the pedagogical goals were not reached to a great extent and we conclude that the pedagogical assignment was too open and not sufficiently clear. The technical assignment was closed from the perspective that it was very clear that the participant should publish a podcast.

The workshop design could be developed in the following direction:
- Greater focus on the importance of RSS and subscription to content. These are key issues as RSS facilitates administration and information gathering, which have become very important in a world of teaching and learning with multiple information sources.

- The pedagogical discussions should be more mutually critical and pedagogical questions should be developed by the participants from their own experience.

- The blog tool has a strong influence on the pedagogical approach and we conclude that a more effective tool is needed to handle multiple discussions.

- Pedagogical issues should be raised by participants based on their own experiences rather than by the moderators in order to achieve active discussions and knowledge construction.

References


