Computer assisted and computer based applications become more and more important due to the exploding possibilities of new media in music education. In contrast to common learning platforms, a learning platform at a university of art first and foremost depends on the implementation of audio-visual media. Many modules containing multimedia based content promote creative processes and different learning situations. Advantages of e-learning include flexibility and convenience for learners, especially if they have more variety in learning experiences by using multimedia applications. This paper deals with the usage of discussion forums, blogs, wikis and collaborative online activities and presents tools for music creation based on the actual status of the discussions in media pedagogies. A final analysis represents a special e-learning scenario about practicing a musical instrument and video commenting.

E-Learning, Music Education, Video Commenting, Podcasting, Interactive Scores.

I. INTRODUCTION

The University of Music and Performing Arts Graz is with over 2000 students an internationally renowned place of education - 17 institutes offer highly qualified training for artistic and scientific professions. Owing to its geographic situation it perfectly knows to combine Austrian tradition in music and performing arts with the creative potential of Eastern and Southeastern Europe.

The e-learning landscape of the university consist of a work group of interested teachers in new media, a couple of individual researchers in their special fields, e.g. Music Education for Teachers or Electronic Music and Acoustics.

Mostly all of our courses have face-to-face contact and we have experiences in blended learning and blended teaching strategies. All of our students have possibilities to use computers at the university, most of them are using their own personal computers. In the last term 2008 we had 28 blended online courses, all of them used asynchronous media such as email, forums, blogs or wikis. The special focus in this paper is about using multimedia content with some different web 2.0 tools.

Communicating online is familiar in everyday life, as email is commonly used in a wide variety of contexts, whether for keeping in touch with friends and the family, arranging discussions or shopping. Similarly, text-based chat, whether via mobile phone or over the Internet, is widely used, particularly among the younger generation. However, the use of these technologies for studying, especially the usage of audio and video content, are less familiar.

II. COLLABORATIVE E-LEARNING WITH MOODLE

In the past years we were looking for a learning platform tailored to the specific teaching needs at a university of art (ranging from individual art classes to scientific teaching in lectures and the scientific discourse in seminars). In 2007 we decided to use a version of the Open Source Learning Management System (LMS) “Moodle”. This system has not only been recommended by the respective ministry in Austria, it has also been rated as a fundamentally appropriate platform in the final report of an e-learning work group at our university. The first steps consisted of a comprehensive technical and didactical analysis of the capability of this LMS: Experiences with this system had shown that from the technical point of view there are still weaknesses, especially in the audio-visual area. When working with big audio and video files within this LMS we had a couple of problems: The loading times for listening and viewing multimedia content reached up to 10 minutes, especially when more than 10 students got access to the multimedia content at the same time. As the development of a streaming server by another institute of our university is still in process we had to find other solutions. We tried to find compromises between file size and quality of the video content to reduce loading times. In the work with video comments we used Flash Video (flv) as a preferred file type.

At the beginning we took advantages from the built in directory access support of the LMS Moodle. Given that our university uses the common lightweight directory access protocol (LDAP), which is supported by Moodle, all of our students (approximately 2000) and lecturers could authenticate within the system without extra work for someone to create user profiles and accounts. In winter term 2007 we counted about 100 persons as registered LMS users, last winter term 2008 over 300 registered students and teachers from our university were using mostly text-based activities in forums and wikis. Other learning activities often contain file-uploading exercises, in which mp3- and doc-files were used most frequently.

We developed various e-learning scenarios for our university with a special focus on audio and video implementations. In one course named “Joseph Haydn Multimedia” the video content filmed in the presence seminar was uploaded as compressed Windows Media Video (wmv). The commenting assignments were made separately in a wiki page, where everyone had to mention the commented time from the video. A disadvantage of this system was using one window for watching the video...
and one for commenting and in addition to that the comments were not linked to the timeline of the videos. In summary most of the students work was done on wiki pages, after one term the results are viewable on a webpage from this special course.

III. VIDEO COMMENTING WITH VICTOR

The video commenting system “Victor” was tested for one course in winter term 2008. The students had to film themselves practicing on their music instruments. In a next step they had to load the video onto the server, where comments to every single second of the video could be made. Everyone commented a couple of videos so that every exercise now has about 20 different comments. The biggest advantages of this system are the linked textblocks to the timeline and faded in comments directly in the video window. So it is possible to watch the video in fullscreen mode and read through the comments without looking to external text boxes. The name of the course was “deliberately practice” and the 30 students took a survey in the end of the semester. Marks were awarded for the reflective commentary, but not for the videos itself, so students were not penalized if it was not a success.

IV. PODCASTING WITH LOUDBLOG

After a close analysis of the blog module in moodle a couple of disadvantages were found compared to the open source software “loudblog”, which is a very popular podcasting tool.

The installation needs a running apache web server, php and a mysql database and is finished in about 10 minutes. In this case user accounts were created manually, because there was no possibility to use existing accounts. Global descriptions of the content including customized logos can be set up in minutes. In a next step audio files were uploaded as mp3-files, loudblog automatically generates a RSS-feed. The URL of the RSS-feed was published in iTunes so that every single episode was available for subscribers of this podcast. Furthermore, it’s important to take into account that more than 50 percent of the students in this course were having mobile devices of their own to listen to the podcast wherever and whenever they wanted to. In contrast to the produced videos in the previous chapter more than 80% of the audio takes where recorded at the university, the rest of the students used mobile audio recorders like the “Zoom Handy Recorder H2”.

V. INTERACTIVE ORCHESTRAL SCORES

Using and testing multimedia content in different learning scenarios we are creating new content mostly with adobe flash. The best advantages of this advanced presentation techniques are synchronous animations to streamed audio files. Streaming makes it possible, that also larger audio documents with animations or scores can be used simultaneously by a couple of students. With interactive orchestral scores there are possibilities to listen to each single instrument or to the whole orchestra.
or ensemble. Therefore it is necessary to record every
single musician and to program hundreds of invisible
buttons to listen a selected instrument in the score.

To follow the complete score or a single instrument in
the score the playing bar is also highlighted. As another
product we are producing play-along scores for active
listening to different kinds of music. A big advantage of
this system is the very simple view of musical sections
without traditional scores. While listening you can
concentrate on the music, most of the time we use
symbols to play along the music with body percussion
instruments like snapping, clapping or tapping. The last
music pedagogical “printing” - the main part of the
publication is a cd-rom - of our institute of music
education is called “Vivat Mozart!” and can be purchased
on our website http://www.impoe.at. There is also a free
trailer available to get an overview of the boundless
possibilities of using new media in music education.

VI. SUMMARY

From the didactical point of view, for instance, it is
desirable to drop the straightjacket of course orientation
with complicated file management in favor of more open
learning types. Furthermore, it will be necessary to
develop suitable and viable synchronous communication
types. Therefore, critical research is a technical and
didactical adaptation of the Moodle platform, tailored
specifically to the demands of our university – including
the development of specific modules and their optimal
preparation and treatment for teaching purposes.

Cooperative learning scenarios allow the involvement
of students in research of access to art in a hitherto
unknown dimension. Concerning the designated e-
learning applications our university will be able to build
upon previous achievements by the Institute for Music
Education.

The use of online tools has changed the ways in which
we write, new options and opportunities especially for
sharing written work are available. At most of the
different studies online learning depends on
communication using text, we try to focus on audio- and
video based content and the sharing of these file types.

In the near future one critical aspect of the research
activities will be the linking or integration of the
developed learning platform and other useful web 2.0
tools like wordpress, loudblog or a portfolio system into
the KUG-online course system, thus allowing the –
theoretical – inclusion of the entire field of teaching of
the KUG in the long term and thus permitting students to
be presented with clearly defined authorizations for
access to several platforms.

During summer term of 2009, the e-learning work
group is to prepare a detailed technical and didactical
design of future e-learning activities. This contains e-
learning models for education practice, development of
interactive orchestral scores, play-along scores and
musical games for teaching practice, development of
modules and plug-ins for learning management systems,
implementation and didactical design of the Moodle
learning platform for lectures at our university.

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Manuscript received 15 April 2009. This work was supported in part
by the U.S. Department of Commerce under Grant BS123456 (sponsor
and financial support acknowledgment goes here).

Published as submitted by the author.