

**COLLABORATIVE VIDEO ANALYSIS IN A VIRTUAL LEARNING ENVIRONMENT**

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*LessonLab Viewer™ is a powerful software that allows the distribution, annotation and discussion of videotaped data over the internet. The software is specially designed to promote the professional discourse on classroom teaching. Groups of expert didacticians, teachers, university students and teacher trainees can share their observations and exchange their ideas by discussing classroom video data and additional material in this web-based learning platform. At the University of Zurich we are conducting a number of case studies using this software. First experience shows that the implementation of new tools can promote deep learning if the didactical arrangements support the new facilities and provide a strong learning support.*

**VIDEOTECHNOLOGY AS A TOOL FOR CLASSROOM RESEARCH**

New technologies enhance the possibilities to reflect teaching practice in schools and to train teaching professionals. Video based research has been a very effective approach to promote a deeper understanding of the micro-aspects of classroom teaching (Ulewicz & Beatty, 2001). In recent studies classroom-videodata from various countries has been collected in order to compare the apparently different teaching cultures (e.g. Stigler, Gallimore, & Hiebert, 2000). The data has led to an intensive discussion on the quality of classroom teaching and promoted further research. Culturally different understandings of teaching quality became evident. Researchers developed a shared language of describing culturally different classroom practice based on the discussion of videodata.

**VIDEOTECHNOLOGY AS A TOOL FOR TEACHER TRAINING**

Even though the use of videotechnology in teacher training is not new (see Erickson & Wilson, 1982 for an early comprehensive overview on edited documentary films and research videodata on classroom practice) video based research on teaching and its groundbreaking results has led to an intensified use of videotaped classroom practice in teacher training (Ulewicz & Beatty, 2001). Teachers can use videos of other teachers or of their own teaching practice to develop an increased awareness of certain activities in the classroom. It is widely believed that the compelling nature of video images heightens the probability that new insights and empirically grounded discussions. Videodata can be slowed down, stopped and replayed, in order to focus on usually unnoticed aspects of teaching practice. Videos can be used to illustrate specific teaching techniques, to give teachers a set of new ideas of teaching a certain topic or to criticise their own classroom practice in comparison to what is seen on the video. Videos can be supplemented with rich additional material, background information, teaching resources, teacher and expert comments, focusing questions and scientific theories. In doing so, videotechnology can lead to a

far more situated contribution to the construction of a joint knowledge base of the teaching profession than abstract scientific theories (Hiebert, Gallimore, & Stigler, 2002).

### **COMPUTER SUPPORTED COLLABORATIVE VIDEO ANALYSIS**

The possibilities of using videodata as a tool for professional development has significantly increased with the growing potential of computers as a networked multimedia device and with the development of advanced video-compression formats allowing the distribution of videodata over the internet. Additionally virtual collaboration environments have given teachers the possibility to create strong knowledge building communities, where practitioners share and exchange their ideas and experiences in online forums (Scardamalia & Bereiter, 1994). Online forums are widely recognized as an effective tool for collaborative learning (Dillenbourg, 1999). It is a central aim of research on teacher training to combine the two technologies, video and online-forum, and to develop didactical concepts of a productive use.

### **LESSONLAB VIEWER™ - A VIDEO-CENTERED ONLINE LEARNING PLATFORM**

The software LessonLab Viewer™ facilitates the collaborative annotation and discussion of video, transcripts and other related documents via Internet (see: <http://www.lessonlab.com/software/viewer.html>). The software organizes teacher observation and learning around videos of classroom practice. These videos could be from single classroom lessons or they could be an organized set of clips from a number of sources (i.e. cases). Time-linked to the video and easily accessible, LessonLab Viewer™ provides easy access to related information, including a video index, text, resources, commentary and personal workbooks. The software has been developed at Lessonlab Inc. under the Supervision of James Stigler and Ron Gallimore (UCLA). The software is fully functional and works with ADSL (or faster) Internet connection. It shows the potentials of web-based annotation and discussion of video data. The use of this software can easily be adapted to other fields of practice where learning from video- data can be fruitful.

### **CASE STUDIES**

Several pilot case studies are currently being conducted at the University of Zurich, using LessonLab Viewer™. The studies give an insight in the advantages and difficulties of combining the potentials of video based teacher training and computer supported collaborative learning. We have designed two different approaches to working collaborately with videodata over the internet. The first approach, that we call 'open and comprehensive', gives students the opportunity to work with a larger corpus of videofilms, comparing entire lessons and finally searching for sequences to discuss the impressions in detail and compare the findings with related scientific theories. The second approach, that we call 'theory led and focused', points students to small sequences of videodata that can be compared on the basis of specific scientific theories. These two approaches to videodata are integrated in wider contexts of problem-based learning assignments. We implemented these tasks in an online-course of four weeks and evaluated the outcomes using logfile data, questionnaires and tests. In correspondence with research in other fields of CSCL it can be shown that the use of collaborative video-analysis can foster deep learning (Lehtinen, 2000). A closer look shows that a central role in fostering learner satisfaction and learner interest are not only properly working platforms, but also structured didactical arrangements that lead to an adequate collaborative use of the tool. Problem-based tasks, learning contracts, tandem-teams, cooperative scripts and a highly structured time schedule are central didactic aspects of video-based e-learning (Goodyear, 2001).

## **FUTURE PERSPECTIVES**

Online teaching strategies centering on video examples can be of great use not only in teacher education but also in other fields of practice. The cases presented may inspire the adaptation of this teaching tool and particular teaching strategies in other fields such as counseling, law or medicine.

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