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Enhancing the Dialogue in Simultaneous Class-Based and Live Video-Streamed Teaching

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Abstract

The bachelor programme in biomedical laboratory analysis at VIA University College in Aarhus has established a blended class concept which combines traditional and live broadcast teaching. 1–2 days a week students have the choice either to attend teaching sessions in the traditional way or to work from home via the Internet. In live video-streamed teaching classes teachers tend to choose one-way communication instead of dialogue. We know from our early findings that technology issues are one of the main reasons for this, since the same teachers use dialogue and discussions in traditional teaching. This paper describes a work-in-progress project focused on developing possibilities for a more dialogue-based approach to live video-streamed teaching. We present our new setup and argue for educational designs which this is believed to support, and we outline the research design for collecting and analysing data. The first analysis and interpretations will be discussed at the ECEL 2015 conference poster session.

Keywords: Live video-streaming, blended learning, hybrid teaching models, University College, dialogue.

1. Motivation – first experiences and new scope

Since 2009 a combination of simultaneous live-streaming and traditional teaching for the bachelor programme in biomedical laboratory analysis at VIA University College (VIA) has increased the recruitment base and offered flexibility for students regarding time and travel expenses.

Until spring 2015 the live-streamed teaching sessions had a flexible technological setup applying Microsoft Lync and a transportable roundtable camera, making the equipment usable in any classroom. The setup allowed students at home to access live-streamed audio/video from the class and a projection of the teacher’s PC via ‘shared desktop’ in Microsoft Lync.

Between 2012 and 2014 a research project based on recorded observations, a ‘question of the day’ to the students (Duvaa et al, 2013), and interviews with teachers revealed that the live-streamed teaching sessions were largely based on monologue (PowerPoints and one-way conversation/instruction), and that technological issues play an important role for this finding. Teachers saw the lack of visual contact with students at home as a limitation on dialogue-based teaching. Students at home found it difficult to hear conversations and awkward and interruptive to talk into the class over loudspeakers. Another important finding was that teachers found the flexible technological setup fragile and complicated to operate, and both students and teachers saw technological failures and breakdowns as obstacles to successful teaching sessions. However, we also recognized signs of great potential, such as students keeping in touch on social activities via the video conference and supporting each other mentally by just ‘being there’ for each other (i.e. being online but not necessarily communicating directly while doing assignments/project work) (Ørngreen et al, 2013).

During spring 2015 we have equipped a specific room to function as a video-streaming room that includes two-way video-support and improved audio quality. The aim of this project is 1) to gain knowledge about how this new technical setup can inspire teachers to design activities that enhance
students’ participation in dialogue, and 2) to monitor the teachers’ and students’ use of these facilities to understand more about their effectiveness, potentials, and barriers.

2. The literature

The concept of live video-streamed teaching in hybrid settings has several names that represent different analytical perspectives. Bell et al (2014) use the term ‘synchronodal classes’, and Nortvig (2014) calls it a ‘polytopic setting’. These two definitions focus on either the many modalities used by students (synchronodal) in their class communication or the many places (topoi) where students are distributed. As live video-streamed teaching is a synchronous process going on in many places and dependent on technology to mediate communication through different modalities, both perspectives are included in the solution used at VIA. We have chosen not to record the sessions, as the learning process in our understanding is dependent on synchronous dialogue.

Nortvig (2014) finds that the teacher has to be a split presence – or a ‘disembodied presence’ – in the two rooms. In Nortvig’s conclusion, embodiment of the technology is a success criterion, as the technology in that case will be invisible, and the dialogue will be more focused on the subject under discussion.

Where Nortvig focuses on the many places and how this changes the role of the teacher (or how the teacher ignores the fact that they are in a polytopic setting), Levinsen et al (2013) describe the factors that influence the creation of a shared learning situation in what they refer to as a ‘third teaching room’, i.e. the virtual room that is established in the online space as a result of the blending of two rooms. In our case this is the VIA classroom and the students’ space at home. In the third room a new understanding has to be established, as the cultural and tacit understandings from the traditional classroom cannot be transmitted directly to the third teaching room. This affects the roles of the teacher and the students, since they have to become acquainted with the split presence and ways of interacting simultaneously in the physical room as well as in the third, virtual room.

At VIA, a class of approximately 25 students has synchronodal teaching 1-2 days per week, and face-to-face classes 2-3 days per week. The face-to-face classes give the students and the teachers the opportunity to get to know each other and to build up a common language, symbols, humour, history and tone to support their communication in classes (Nortvig 2014). As the teachers at VIA are Socratic educators, they use dialogue in classes, and they are frustrated when technology issues hinder such dialogue. As Nortvig describes it, teachers “see it as destruction of their teaching” (Nortvig et al, 2015).

In the global classroom video conference model at an adult learning centre, it was found that hybrid models provided students with a freedom, among others, to create a work-life balance on a daily basis (Weitze and Ørngreen, 2014). However, the research also shows there is a need for increased awareness from the teachers on how to redesign traditional education in a way that provides equal opportunities for the students to be active in the classes, whether they participate from campus or at home (Weitze and Ørngreen, 2014).

This project aims to build and evaluate a robust technological setup that facilitates dialogue in synchronodal and polytopic classes and that will inspire teachers to design learning activities based on dialogue. This in turn will allow students and teachers to experience a third teaching room that encourages students to be active participants in the dialogue.

3. Research design and expected findings

In order to facilitate embodiment of technology and a third teaching room, we aim to use technology that is robust, easy to use, and mimics important elements of dialogue in the form of good audio quality, video of the student’s faces, and a video stream that shows the teacher’s body language as well as the spoken language. As a supplement to this, dialogue-supported learning is often linked to whiteboard sketchings or PowerPoint presentations, which have to be shared in the third room for the students to interact with them as well.
It is not an option for teachers at VIA to choose whether they want to teach using live video streaming or not; all teachers must be able to teach in this environment, and they are not given any extras, either economic supplement or workload reduction. This is why the project aims to let the teacher’s role in synchromodal classes come as close to the role the teacher knows from traditional teaching. Success would be to substitute the normal class with a synchromodal class with almost no differences from the teacher’s view.

Interviews with the teachers showed how important the dialogue is to them. As communication is a lot more than words sent from one person to another, the teachers found that they need to see the students at home to gauge their reactions. The teachers want to give the students the best possible learning experience regardless of their ‘topos’.

If we succeed in enhancing the dialogue as seen from the teachers’ point of view, we hope that they will experience less resistance to the change that live streaming has brought to their teaching. As teachers’ resistance declines and they are able to act more naturally in this new third teaching-room, we expect the students to experience classes with a focus on the domain of knowledge and their learning process and not on technological issues. Success criteria for the teachers are based on the their experience of the dialogue in their classes because we believe that dialogue is what is needed to help students’ learning processes in class.

Buhl et al (2014) find that the tacit dimension of teaching affects the participants in the third teaching room. We expect that findings from the video recordings of trials will show if and how the dialogue is dependent on the setup. Especially, we expect to see teachers enjoying successful experiences regarding their communication with the students in the online space, as they now have access to video streams from the students at home.

4. The Setup

The room is now designed and in use (see figure 1), and several trials with different educational designs are being executed.

![Figure 1: The syncromodal classroom and examples of the student's laptop view at home (WB: whiteboard, TS: touch screen)](image)
Dialogue in classes and teaching will be evaluated through video recordings from the trials in May and June 2015, and we expect to present our findings from the video recordings, ‘the question of the day’ to the students, and the focus-group interviews with the teachers. Findings will be discussed in light of the students’ experience of being an active part of the class. It is also our assumption that the students’ learning experience will be of greater value if they have the possibility to interact actively with the rest of the class (co-students in their homes and the students in class).

5. To be continued, rather than concluded

As this is a work in progress, the first analysis, interpretations, and practical lessons learned will be presented at the ECEL 2015 conference poster session.

References


