

# EXPLORING CO-CREATION OF EDUCATIONAL VIDEOS IN AN INTERNATIONAL COLLABORATIVE CONTEXT

Blair Stevenson<sup>1</sup>  
Janne Länsitie<sup>1</sup>  
Christian Kogler<sup>2</sup>  
Petra Bauer<sup>3</sup>

<sup>1</sup> Oulu University of Applied Sciences, Finland  
blair.stevenson@oamk.fi; janne.lansitie@oamk.fi

<sup>2</sup> Pedagogical University of Upper Austria, Austria  
christian.kogler@ph-ooe.at

<sup>3</sup> Johannes Gutenberg – University of Mainz, Germany  
bauerp@uni-mainz.de

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The following paper introduces an innovative international collaboration in teacher education held in 2014. This event, described as an educational video challenge, was organized as a 72 hour, hackathon-style educational experience in which university-level students worked together in teams to co-create educational videos. The objective of the challenge event was to encourage teacher students to explore the design and use of educational videos for use in their teaching practice. The challenge was simultaneously held at three universities in Finland, Austria and Germany and culminated in the screening of completed student-generated videos. The majority of videos produced during the event were trigger videos, while findings from a preliminary assessment conducted with participants suggest that

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an educational video challenge format shows promise as an effective method for enhancing skills associated with teaching through video and engaging participants in dialogue connected to practice.

## 1 Introduction

Film and more recently video have been used for decades in educational settings to support teaching (van Es & Sherin, 2009; Masson, 2012). Due to the growing accessibility of devices capable of recording digital video such as tablets and smart phones and the increasing usability of video editing software, videos are increasingly being created and used as part of teaching and learning in post-secondary education contexts (Haw & Hadfield, 2011; Blomberg *et al.*, 2013). Furthermore, students are now expected to view and create their own videos as part of their studies. This paper will focus on one such example at the post-secondary education level in which teams of students produced their own educational videos as part of an international collaboration event described as an educational video challenge.

For the purposes of this paper, the term educational video is used to describe those videos that are specifically produced for viewing as part of a pedagogical process. While educational videos can take on many forms such as videos for stimulated recall (Lyle, 2003) and videos that capture lectures for online viewing (Owston *et al.*, 2011), the majority of videos produced as part of the challenge event discussed in this paper can be described as trigger videos. Trigger videos / trigger films have been used for decades as a tool to promote dialogue as part of pedagogical processes (Sloper, 1984). Schwartz and Hartman (2007) describe these types of videos as a ‘designed video’ in which the producer plans the video’s components and features in order to support reflection and engagement on a particular topic.

While research exploring the impact of video use to support teacher development is rapidly increasing (Tripp & Rich, 2012), relatively few studies specifically focus on how collaborative creation of videos by teachers supports professional development. Accordingly, the framework of the educational video challenge draws from key methodologies used in previous studies relating to collaborative video use in teacher education such as video clubs (Sherin & van Es, 2009) in which teachers view videos and then discuss topics relating to the videos, and video reflection groups (Calandra *et al.*, 2009) in which teachers edit and produce videos as part of a reflection process. The educational video challenge differs from these activities, however, by focusing on the creation of videos for use in future teaching scenarios rather than the creation of videos from footage of an individual teacher’s practice.

Furthermore, the challenge event focuses on teacher students planning and editing videos together in teams. In this way, the use of video for the challenge

event works to build reflection on teaching practice in line with guided, video-based reflection (Calandra, 2015), in which students edit their own videos, and collaborative inquiry into teachers' activity in groups (Lussi Borer & Muller, 2014). Overall, this approach to professional development focuses on the potential for peer-learning during the planning and editing of a video to act as a form of lesson analysis (Santagata *et al.*, 2007), while team members reflect on how to create their videos for use within a teaching scenario.

This paper will describe the structure and outcomes of the educational video challenge event and summarize key findings from a preliminary assessment conducted with participants. The paper is structured into four sections: an introduction, a summary of the event, a findings section covering key results from the project assessment, and a conclusion.

## 2 Summary of the event

The educational video challenge was a joint event established by the Oulu University of Applied Sciences in Finland and the Pedagogical University of Upper Austria in Austria in cooperation with the Johannes Gutenberg-University of Mainz in Germany. Held for the first time in November 2014, the event was organized as a 72 hour, hackathon-style educational experience in which university-level students worked together in teams to co-create educational videos. Educational videos were created simultaneously during the event in all three institutions. The objective of the challenge event was to encourage teacher education students to explore the design and use of educational videos for use in their teaching practice.

Videos were co-created during the event in teams of students. Teams were either assigned or were created by students themselves and ranged in size from two to eight members. While teams were formed with students from one country (Finnish teams, Austrian teams and German teams), the event was organized as an international collaboration with the expectation that students will be able to view educational videos from other educational and cultural contexts as well as affording the opportunity during future events to support the creation of mixed international teams that can complete videos via distance learning methods. Ultimately, it is expected that the international nature of the event will allow for the exploration of cultural differences relating to the creation and uses of educational videos as the research process expands.

Participating teams were given a set of criteria to guide the design of educational videos: videos were to be less than five minutes in length; videos were to be useful to a teacher to support instruction at any level (elementary, secondary or tertiary education) and in any subject; and students could use any form of technology to create the video (e.g. mobile devices or video cameras).

The length of videos was limited to five minutes both to create a manageable task in the timeframe given, and to recognize what Dickinson and Summers (2010) point out as the value of three to five minute, highly didactic videos to encourage student engagement.

In total, 129 students participated in the challenge event from Finland (45 students), Austria (76 students), and Germany (8 students). In Finland, students were drawn from the Vocational Teacher Education Qualification and the Media Studies programs at the Oulu University of Applied Sciences as well as visiting students from the Masters of Learning and Educational Technology program at the Faculty of Education, University of Oulu. In Austria, student participants attended the Teacher Education Qualification program at the Pedagogical University of Upper Austria, while in Germany participating students were enrolled in the teacher education program at the University of Mainz.

Since the educational video challenge event was established as a competition-style challenge, a panel of judges (eight in total) made up of individuals working within the fields of education and film were brought together in Finland (4), Austria (3) and Germany (1) to assess the video submissions and to choose the 'best' videos. Videos were assessed by judges according to the following pre-determined criteria: educational quality (e.g. how well the film could be used as a part of an educational experience); technical quality (e.g. camera work, editing, audio quality, graphics, etc.); and creative quality (e.g. storytelling, acting, stylistic visual elements, and the use of music).

As a learning experience, the educational video challenge was integrated into existing formal course programming at each participating institution. Associated teaching materials such as a series of four webinars were offered to participants before the event in order to support the actual completion of the challenge tasks during the event. Content of the webinars covered: an introduction to video pedagogy, the production process of a video, camera use and web publishing of videos. Event information and materials such as webinar recordings and links to all videos produced during the event were documented using a blog ([editchallenge.blogspot.fi](http://editchallenge.blogspot.fi)).

In total, 35 videos were submitted to the educational video challenge. Of these videos, 17 were from Austria, 16 from Finland and 2 from Germany. All submissions were made in English or created with English sub-titles. The majority of videos (66 percent) can be classified as trigger videos in which a fictional storyline was constructed for viewing in an educational context to stimulate dialogue among the viewers. Since the subject area and grade level of the videos was open, the content of submissions ranged significantly from teaching mathematics principles to discussing water conservation. The following table summarizes the number of videos classified under the following

types of educational video in each country: trigger video, demonstration video (a video demonstrating how to perform a specific skill) and ‘project video’ in which a student presents one’s own competence.

Table 1  
SUMMARY OF EDUCATIONAL VIDEOS BY CATEGORY

Type of Educational Video	Number of videos			
	Finland	Austria	Germany	Total
Trigger Video	10	11	2	23
Demonstration Video	5	6	0	11
Project Video	1	0	0	1

A ‘best’ video was chosen by judges in four categories: best overall, best pedagogical video, best technical and most creative. These categories were created to emphasize the aspects that can impact on the effectiveness of an educational video. Of the four videos chosen, three were trigger videos (including the best overall) and one was a demonstration video. These videos all displayed a high level of technical skill. The trigger videos had been created for use in a wide range of fields such as philosophy, media studies and history, while the content of the demonstration video focused on art studies.

While judges were given a weighted coding system based on the three categories (pedagogical, technical and creative) with pedagogical use given double weight, not all judges used the scoring. Therefore, a comprehensive scoring of all video submissions is not possible. Furthermore, opinions on what made for an effective educational video ranged considerably and was often related to the professional background of the judge. Therefore, the decision relating to which videos were deemed ‘best’ were expressed by some judges according to personal preference for one criteria over others (e.g. technical skill rated as more important than creativity and pedagogical skill). While the jury process brought about rich discussion and ultimately led to particular videos being chosen, this situation points to the need for a more systematic and lengthy dialogue with event judges in order to clarify the appropriate definitions for effective educational videos. The expansion of a research-informed dialogue around definitions is viewed as a necessity for any future educational video challenges.

### 3 Assessment and Findings

Preliminary research was initiated by the authors / organizers of the event with an objective to explore how the project supported participants’ reflection on teaching practice and the development of knowledge and skills associated

with the design and use of educational videos. Data was collected through an online survey distributed to all participants after the event. This survey consisted of 22 questions focusing on students' perceptions of their knowledge and skills prior to and after the event with respect to the design and use of educational videos and on the effectiveness of the event to support reflection on practice. The survey was completed by 68 respondents (12 from Finland, 49 from Austria and 7 from Germany) for a response rate of 53 percent.

With respect to familiarity with educational videos, roughly 75% of respondents had never created an educational video before the event. Additionally, students were asked to rate their knowledge about educational videos before and after the challenge event. Results suggest that a notable increase in the knowledge of educational videos took place. The following figure summarizes survey findings associated with students' overall knowledge of educational videos.

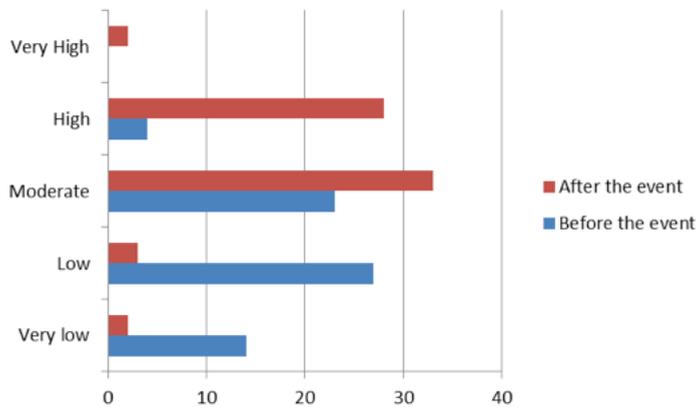


Fig. 1 - Responses to survey question: how would you rate your knowledge about educational videos (before and after the event)?

Participating students were also asked to rate how the event supported the learning of skills related to the production of educational videos. Responses were given along a five point Likert-scale from 'highly supportive' to 'not supportive at all'. The skills listed as options were: teaching skills; project management skills; team work skills; and video technical skills. Those skills rated as having been supported the most were team work skills (response mode: 'highly supportive'), followed by project management skills and video technical skills (response mode: 'mostly supportive'). The high ratings for these three skills, and especially team work and project management skills, can be interpreted as

a reflection of the fact that the challenge event required intensive team work under time pressure. Additionally, some teams were dealing with the logistics of working in large groups and acquiring available equipment which required effective project management under the limited time available.

With respect to video technical skills, students rated the event as “mostly supportive”. One factor that may explain for these responses is the composition of some teams which included members who already had considerable video technical skills. In these cases, those students who already possessed a high level of technical skills became the default ‘experts’ in the group, while other students may have contributed less to the technical development of the video. For example, some teams in Finland included media design students working together with teacher training students. This team structure may have also limited the impact from the overwhelming cognitive load noted by Calandra, Sun and Puvirajah (2014) associated with teachers learning and managing the technology necessary for making educational videos.

As summarized in Figure 2 below, teaching skills were rated as being supported less than the other skills with a response mode of ‘moderately supportive’. Similarly with the other skills above, the event’s limited time may have had a noticeable impact on how much reflection on teaching practice student teams could engage in while completing their videos. This in turn points to the need for addressing a more systematic approach to supporting reflection on teaching practice during such an event as is the case in activities such as video clubs and video reflection groups.

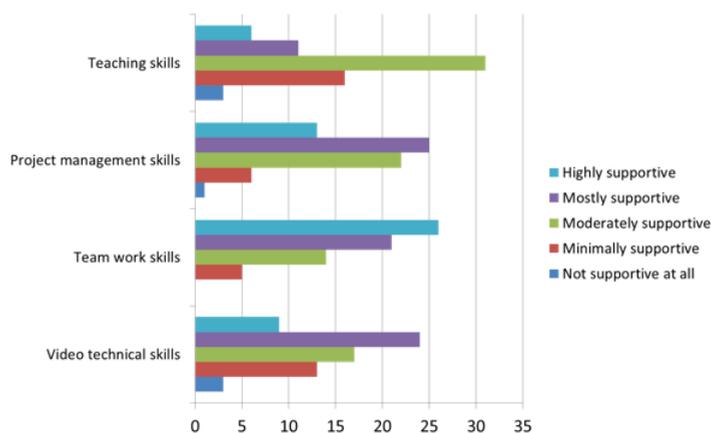


Fig. 2 Responses to survey question: how would you rate the event in supporting you to develop skills related to teaching, project management, team work and video techniques?

And yet, when asked to describe how the event acted as a learning experience student text responses support the overall survey findings suggesting that reflection and skills development associated with teaching was taking place. For example, the following two quotations reflect how the educational video challenge supported teacher development:

«It [production of an educational video] is work practice since you learn many things you need in your whole work. You get a bigger view, learn to work in a team, reflect on your work and yourself.» (student respondent).

«Being a teacher means developing a self-conception of what are your skills and what is your kind of teaching-style. Making an educational video supports this process and helps you to be creative about it» (student respondent).

## Conclusion

The educational video challenge was established to enhance learning in a teacher education context through the co-creation of educational videos. Findings from a preliminary assessment conducted with participants of the first challenge event suggest that this type of event shows promise as an intensive educational experience that develops skills associated with the use and production of educational videos. Furthermore, these findings highlight co-creation of educational videos in teams as a potentially useful method to support reflection and dialogue associated with teaching practice.

A second educational video challenge is planned for November 2015 along with a wider research process exploring activities and outcomes associated with the challenge event. In order to investigate the impact of educational video co-creation, these planned research activities should be grounded in a structured assessment of teacher reflection and dialogue during the video creation process as well as the video assessment process. These activities should draw from existing tools such as those used in video-enhanced critical incident reflection analysis (Calandra *et al.*, 2009) and the lesson analysis framework used by Santagata and Angelici (2010). Ultimately, students will be guided in an expanded manner to reflect on the video creation process and data collected as part of this future research (in the form of text, audio and video) will allow for an expanded exploration of how educational video challenges support teacher professional reflection and learning.

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