Interactive videos with embedded questions

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ABSTRACT
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The goal with interactive videos with embedded questions is to increase the learning gain students get from watching online videos. The rationale for such videos is based on ideas about active learning and the flipped classroom.

An “active learning” lecture, in which student understanding is gauged at several times during the lecture, seems to raise the learning gain, compared to a passive lecture, where the instructor presents the material (Meltzer 2002). Peer instruction is one approach to active learning, where the students are given conceptual questions and can answer them using a student response system; such that the lecturer can act on the given answers, either by presenting the material once again with a different perspective or let the students discuss the question in small groups (Crouch 2001).

To maximize the outcome of the limited class time that is available in many teaching situations, one approach is to flip the classroom, such that students watch recorded lectures at home and work on exercises in the class. One benefit of recorded lectures is that a student can pause and replay videos as needed, but the main drawback is that it is difficult (if at possible at all) to use active learning approaches in the videos.

The question is how video based lecturing can benefit from the ideas about active learning to increase the learning gain. My approach is to pause the video at certain locations and then pose a question to the student. The purpose with the question is to let the student use the knowledge that was presented in the video. This sequence of presentation followed by activation is expected to increase the learning gain significantly.

The setup consists of videos uploaded to youtube and a customized online video player that can show the questions and check for correctness. The online video player is being developed as part of an e-learning project at the University of Southern Denmark and will be released as open source software. A demonstration is available at http://tekvideo.sdu.dk/t/henrikmidtiby/Demo.

Come and join a discussion on how to increase student gain from online videos and get a demonstration of the online video player with embedded questions.

REFERENCES

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