

VIDEO BASED LEARNING FOR TEACHING SCIENTIFIC SUBJECTS

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Abstract

Video Based Learning is a rich and powerful model used in Technology Enhance Learning to improve learning results and learner satisfaction. A large range of teaching methodologies make use of Video Based Learning environments, e.g., collaborative learning, micro teaching, video summarization, video assessment, hybrid learning, as well as student-centered learning. In addition, several tools as annotation tools, video libraries and forums, are used to increase the interactivity and collaboration. The studies show that Video Based Learning facilitates teachers' and learners' reflection on their performances, and they really prefer to use the videos as a reflection tool. Furthermore, the production of a video independently made by a group of students brings a fresh perspective to the work that they carry out in their classrooms. Video Based Learning has a long tradition in science education, but the rapid development of the technology during the last two decades, have highlighted the need of researchers and educators to experiment and to explore new ways to use the videos, especially for teaching scientific subjects. The debate is expanding from the correlation of students' engagement with production styles of video lectures to the role of the teacher; from the student's interaction with the content to the individual learning styles; from the dialogue teacher - students to collaborative peer learning; from the social, cognitive and learning presence to the assessment questions. The present paper is focused on the analyze of these aspects with the aim to highlight the characteristics that better support the interaction of students with the content of the video and the collaborative learning among students. Special attention will be paid to the subject of laboratory of physics which fit very well with video production practice and allow to pursue different objectives. Specifically, will be discussed how the project of video production may induce students' cognitive processes for the learning of physics concepts; how engaging students actively in their learning process through the use of technological resources like digital video cameras and other devices to record and capture images, audio and software for editing the video, may support the motivational and technological aspects of learning process.

Keywords: *Video Based Learning, laboratory of physics, Technology Enhance Learning, interactivity, collaborative learning.*