

Screencasting Strategies: Heuristics for using Video Content in 3D computer Graphics Technological and Aesthetic Education

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1. Introduction

Supplementing both text and lecture with videos has become a necessary part of a comprehensive course that incorporates both technical and design elements. As educators who have participated in developing multiple training videos we have begun to develop strategies and rules of thumb for developing and implementing *effective* video within our educational process.

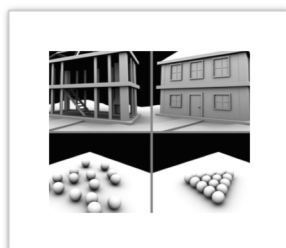
2. Exposition

Increasingly large amounts of research have been published in support of the effectiveness of multimedia, which connects to multi-modal learning styles over text. Written text based communication is processed in a significantly slower and linear fashion. Over 50% of the brain is dedicated to visual processing (Smicklas). Images are processed holistically and nearly instantaneously. Consequently, text often requires an information redesign to show the information vs. describing the information. Additional data (Clark) has shown the amount of information per second processed by the brain is higher from multi-modal sources, for example video with audio.

2.1 Elaboration

Our goal has been to use screencasting technology in order to leverage our time so that we can focus on teaching the design process, giving greater individual attention to our students while maintaining the highest standards for technical instruction. During the process of accommodating, adopting and adapting to screencasting we have begun to develop categories for video usage as well as strategies for their delivery. In doing our results are starting to fall in-line with external research being done on the rapidly growing amount of training content delivered by online video.

Figure 1. From Framework to Full Knowledge



We'll discuss information design for screencast in the following categories:

- Interface tours
- Pitfalls and demons: Task specific videos
- Flipped classroom: Full lecture video before class
- Sequential: Step by step instructional videos
- Question and answer specific tutorials
- Critiques: Screencasting using tablet based integration
- Contextualizing: Strategies for encapsulating information

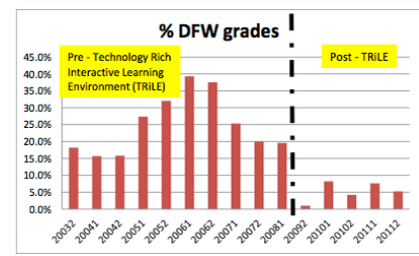


Figure 2. Percentage of DFW grades for Pneumatics & Hydraulics Class (Garrick)

3. Results

Video and media rich media will play a growing roll in education for the foreseeable future. Its use has already produced significant, quantifiable positive results (Garrick Fig 2). Specific structuring of information and delivery with certain temporal parameters within the categories listed above will further improve quality of education.

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