

Production of Screen Recorded Video Tutorials of Virtual Slides for Teaching Histology and Histopathology Using Camtasia Studio

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The ideal arrangement for teaching histology and histopathology is to pair a student with a teacher on a dual viewing microscope where the instructor and student can interact while viewing a specimen on a glass slide. While very effective, this arrangement is not practical due to the faculty student ratio in our medical institutions. Compromise approaches that come close to this arrangement have included projection devices introduced circa 1950s that project the glass slide image similar to projecting a 35 mm slide and video microscopy. Since the introduction of the television microscope, also circa 1950s, live and videotaped histology and histopathology tutorials have been used extensively at the beginning of laboratories to instruct and orient students to microscopic structure.

The idea for our current project came after reading a report by John Woosley, MD, PhD in Human Pathology where he described the creation of interactive pathology tutorials in QuickTime and Flash using the Camstasia Studio Plug-in for PowerPoint (Human Pathology 37:974-977, 2006). Woosley created short (1-3 minutes) video tutorials with narration, annotations, and questions with feedback to mimic the experience of viewing a pathological slide at the microscope with a skilled pathologist. Woosley created the videos within PowerPoint using the zoom feature in PowerPoint to create the effect of magnification using static images.

We have employed Camtasia Studio (<http://www.techsmith.com/camtasia.asp> ; \$299.00; in addition to free software (at least 30 different kinds of commercial screen recording software are available ranging from \$20.00 to \$1,000.00) to create short histology and histopathology tutorials using virtual slides by recording from the computer screen while accessing our virtual slide website. The narrated videos can be produced in as many as nine different formats, including AVI movies, QuickTime movies and as a Podcast. We are currently producing our videos as Flash (swf). The use of virtual slides instead of static images more closely resembles the interaction between a student and instructor using a dual viewing microscope than any scenario to date. The video tutorials can be controlled by each student to replay any segment for reinforcement. Interactivity is included by interposing questions while the video is paused. When the question answer is submitted and feedback is given, the video resumes. Both practice questions and graded questions can be administered. This presentation will explain and demonstrate the steps necessary to create the video tutorials, including showing of an example.

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