

TEACHING HISTOLOGY TO FIRST YEAR MEDICAL AND DENTAL STUDENTS EMPLOYING A WEB-BASED VIRTUAL MICROSCOPE

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Teaching histology with microscopes and glass slides requires a high faculty:student ratio for efficient transfer of information. Static images in books or on a computer screen are poor substitutes for the information that is gained through microscopic evaluation and do not help the students learn to “read a slide”. We have built a web-based laboratory that presents virtual slides to 150 students simultaneously, and allows them to navigate annotated images in real time and to use the material for efficient self-study with minimal faculty supervision.

Our web-based histology course comprises syllabus material and a laboratory session for each lecture/lab topic. Following lecture, the students separate into smaller groups where web-based material is accessed via laptop computers with wireless capability. Clicking the thumbnail image opens a viewer on the screen, allowing the navigation of specimens at magnifications up to 20X. Descriptive material provided for each specimen guides students to specific annotated structures. The viewer, a software tool from MicroBrightfield, Inc., resides on the server with the web site. The images, obtained from the University of Iowa, are served up using software from MicroBrightfield, Inc. from a separate server. The response from the students in the first year of implementation has been overwhelmingly positive and their feedback is being used to make improvements in content and organization. This approach provides effective instruction at a very favorable faculty:student ratio. An unexpected benefit of this approach was the extent to which this histology material was also accessed in support of concurrent gross anatomy instruction.