

Implementation of MediaLab in Hematology Courses

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ABSTRACT

Reaching students in a technology-savvy society can be difficult, but the implementation of software helps to extend an institution's reach. Hematology slides, which show students a variety of diseases, can be difficult to obtain and evaluate once stains begin to fade. It may also be difficult to give feedback to a class full of students with questions about the identity of cells on a peripheral smear. Using PowerPoint to show cells gives a limited view of what the cellular picture looks like, and the determination of the actual size in comparison with other cells can be difficult. The white-blood-cell- and red-blood-cell-differentials simulator provided online, through MediaLab Inc. Case Simulator, has helped to move Indian Hills Community College's Advanced Hematology and Coagulation course to a hybrid format. Students can see cells they may not otherwise get to see in a classroom laboratory. Cases are presented with patient history and laboratory values to aid with the differential that needs to be completed. This helps students learn critical-thinking skills through the identification of cells and interpretation of laboratory values presented in different disease states. Feedback for our students is immediate per cell during the differential, and—once the differential is completed—the student can watch a review video

that explains each cell. A review of each cell the student had to identify, an explanation of what the student identified, and what experts identified can be viewed. Students' results are easily graded by the instructor and can be compared with the class of students. These statistics can be exported to Excel and used in an assessment of the students' understanding of each type of cell. These statistics have helped the department assess student-learning outcomes and identify individual needs based on specifically identified areas that need work per class or per student basis. When looking at 4 years' worth of data, those students who consistently completed assignments and scored a 78% or better on their differentials passed their practical examinations when given in PowerPoint form. Of the students that passed the course, 100% of them passed their board examination and 88% of those same students passed the hematology section of the board examination. MediaLab Inc. has helped students understand cell identification, and students have given great feedback on the software. Students like that they can complete work on their own time and get immediate feedback on the cells that were identified incorrectly.

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