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ADEA Journal of Dental Education Article Surveys Student Opinion on the Use of Digital Microscopy and Evaluates the Pros and Cons of this Emerging Technology

WASHINGTON, D.C.—A new article published in the latest issue of the American Dental Education Association’s (ADEA) scholarly publication, the Journal of Dental Education (JDE), reports on the preference among dental students for digital microscopy (DM) over light microscopy and the advantages of implementing DM into the dental school curriculum.

The JDE article, “Dental Students’ Perceptions of the Use of Digital Microscopy as Part of an Oral Pathology Curriculum,” by Zachary R. McCready and Bruno C. Jham, D.D.S., M.S., Ph.D., presents the findings of a dental school survey designed to gauge dental students’ perceptions of both light and digital microscopy. The authors surveyed an oral and maxillofacial course of 129 second-year dental students, receiving 123 responses; 112 of which were used as the final sample.

The study found that students overwhelmingly favored using the digital microscope over the light microscope, claiming that DM enhanced their learning of the material (98%), enabled greater navigation than the glass slides (94%), allowed for more collaboration with other students (97%) and was “more fun” than using the light microscope (80%).

According to Mr. McCready, “One of our most important findings was that the use of this digital microscopy was associated with the students’ overwhelming belief that the technology enhanced peer collaboration, which is a critical component in the formation of future dentists.”

In addition to students’ preferences, the authors list a number of other advantages that DM has over light microscopy. From an institutional standpoint, DM will eliminate the need for expensive microscope laboratories because the use of microscopes will move into computer rooms. In addition, faculty will benefit from the use of DM by decreasing the amount of laboratory session time from three to two hours and by DM sessions requiring fewer faculty members for supervision.

However, the authors also address some of the negative aspects of DM implementation and suggest ways to mitigate them. It has been observed, for instance, that students taught exclusively with digital microscopes are often unable to identify tissue on glass slides, but this can be prevented by offering classes that incorporate both digital and light microscopy. In addition, the digitalization of glass slides can be both time-consuming and expensive. The authors hope that future technological advances will help decrease the cost of DM implementation.
Nevertheless, the authors encourage institutions to consider implementing this emerging technology due to student preference and the positive effect it may have on student learning. As author Dr. Jham states, “Digital microscopes have the ability to transform the study of pathology into a more dynamic and enjoyable experience.”

Access the full report at www.jdentaled.org. To learn more about the ADEA Journal of Dental Education, visit www.adea.org/jde.

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