



Evaluation of a Digital Learning Object (HistoPete©) at OSUCHS

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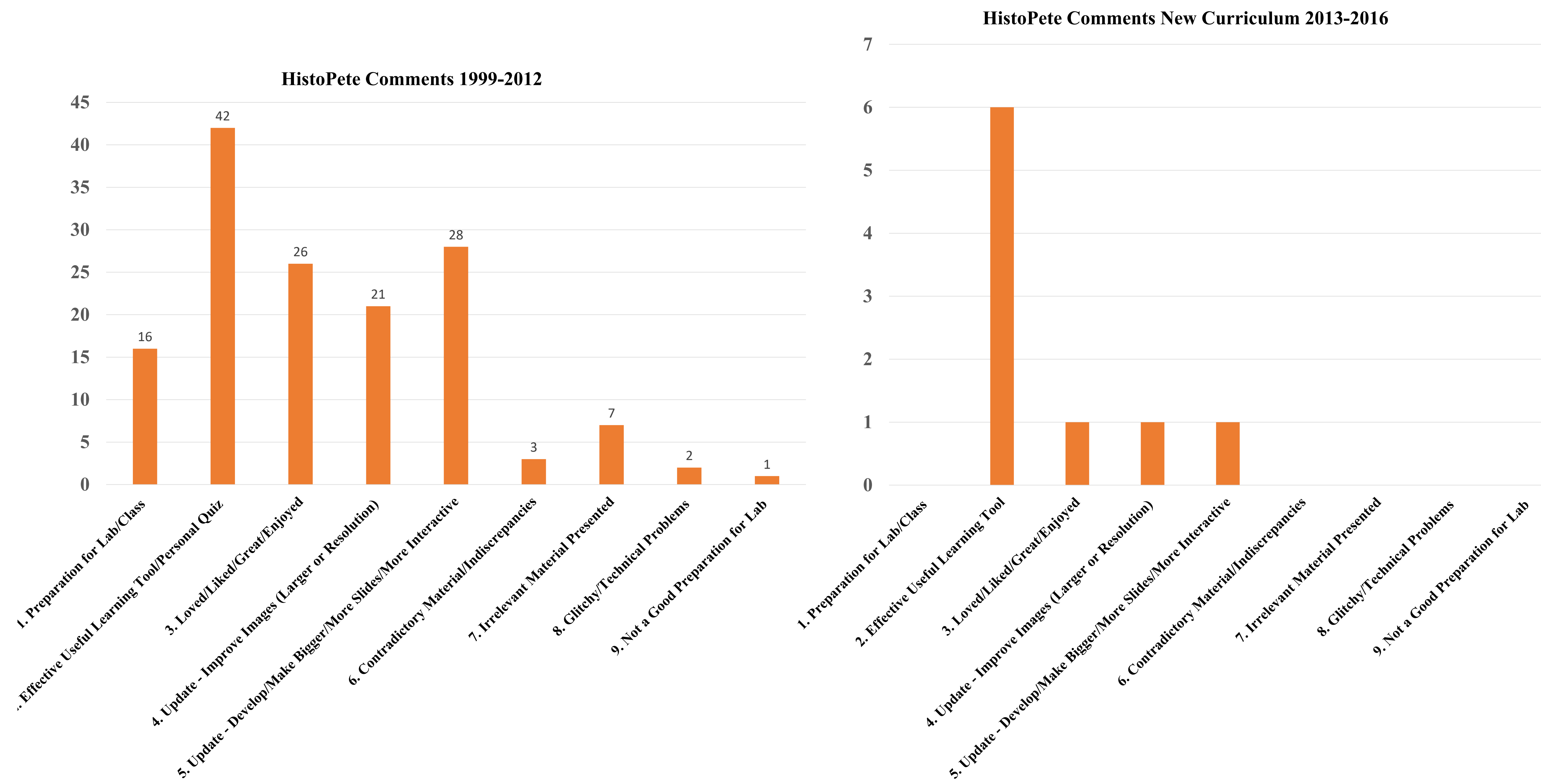
INTRODUCTION

Digital learning objects (DLOs) are units of learning designed for electronic delivery, can be used almost anywhere, can stand alone or be part of a system, and can be used independently or collaboratively¹. HistoPete grew out of a computer-based instruction format in 1989, composed of several modules that took the student through the microscopic anatomy of the human body. With the development of WYSIWYG HTML editors, HistoPete was incorporated into a histological instructional unit that could be viewed online by medical students and appeared to be a novel idea for improving student learning². DLOs can be reviewed or rated according to content quality, learning goal alignment, feedback and adaptation, motivation, presentation design, interaction usability, accessibility, reusability, and standards compliance¹. Medical curricula change as the result of suggestions from review boards, administrative decisions, faculty and staff involvement, student evaluation, and student needs³. MERLOT (Multimedia Educational Resource for Learning and Online Teaching) suggests that an evaluation model for DLOs should include content quality, usability, and effective potential¹.

OBJECTIVES

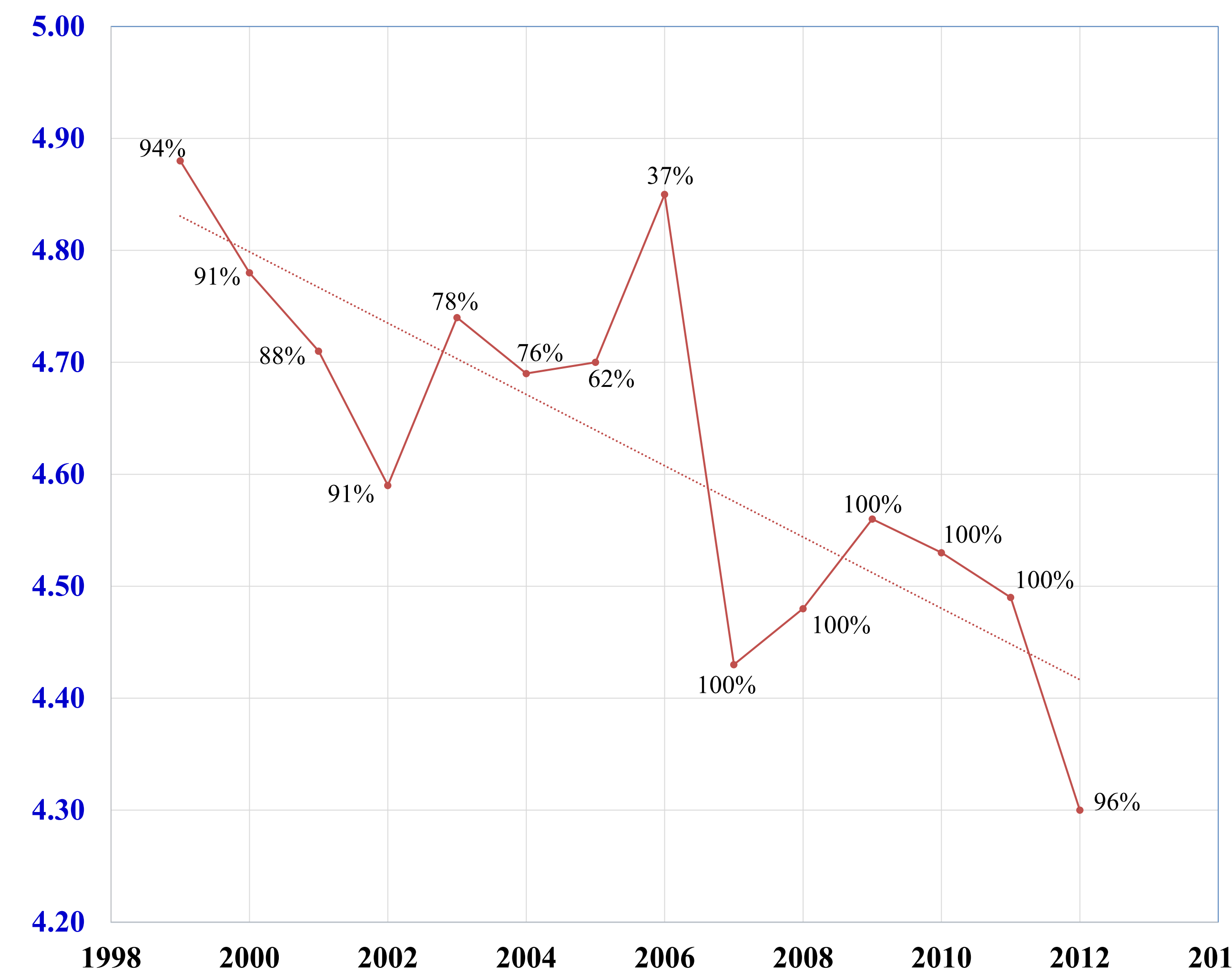
HistoPete was developed as a histology tutorial to introduce medical and graduate students to the cell, tissue, and system material being presented in both the histology lectures and laboratories. Images presented with a multiple choice question, followed by a short explanation after each answer, allowed for immediate feedback in a system that was easily accessible from the college website. Students were able to view static images that they would be seeing during the laboratory and thus orient themselves to viewing in both the light microscope and the virtual microscope. The purpose of this study was to evaluate HistoPete in order to determine: (1) in what ways it has been useful; (2) the impact on the learning and study of histology, (3) the areas needing improvement, especially in light of curriculum changes. HistoPete was found to be a useful tool for learning histology, but it must be adaptable to the new curriculum, especially since there are no labs or group sessions for further interaction. Image improvement was a common suggestion in student evaluations.

RESULTS



HistoPete was useful.

Strongly Agree = 5.00
 Agree = 4.00
 Neutral = 3.00
 Disagree = 2.00
 Strongly Disagree = 1.00



METHODS

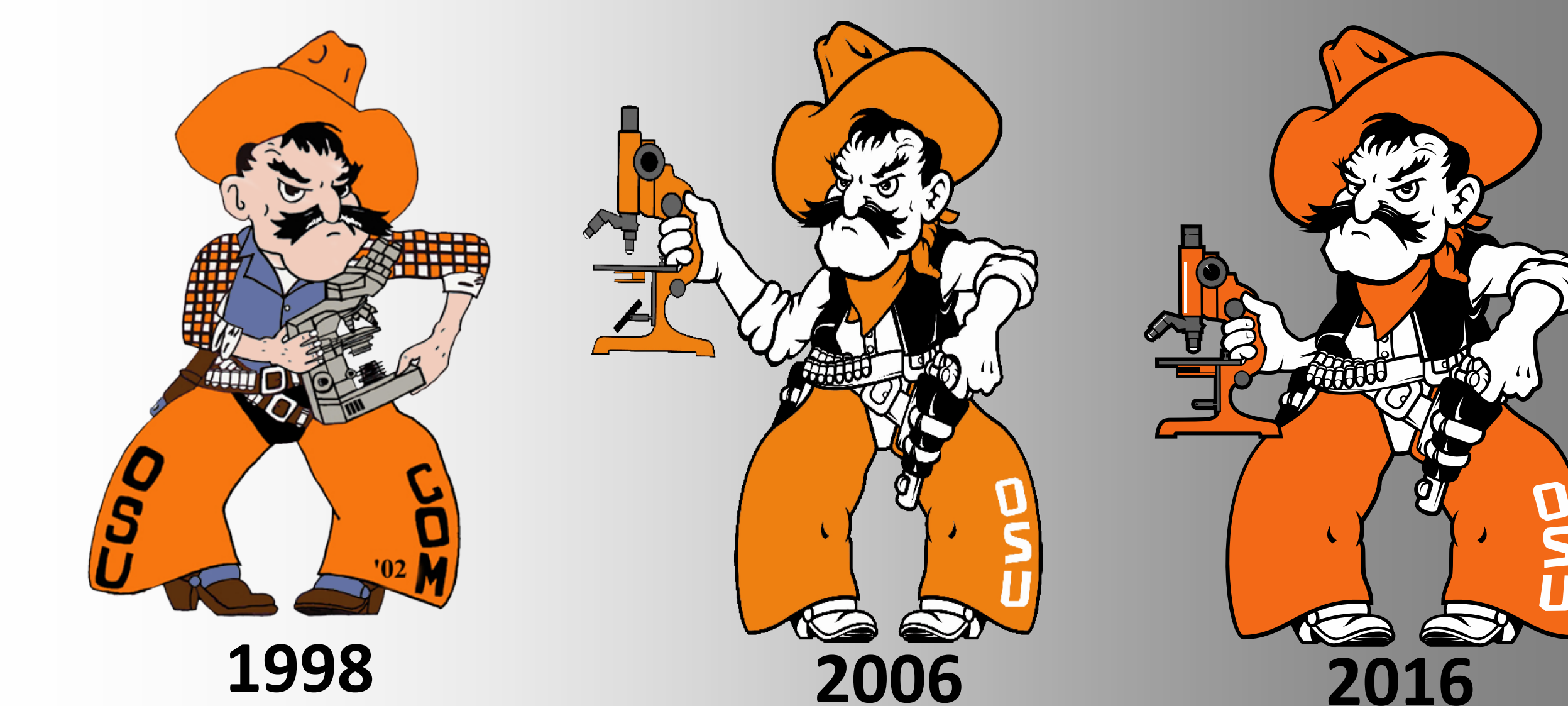
Mixed methods were used in the study. Student course evaluations of Histology PCME 8124, a 4 hr credit course for medical and biomedical graduate students, were available from years 1999-2012 regarding the statement "HistoPete was useful" on a Likert scale. Comments from students in classes 2007-2016 were subjected to qualitative analyses using coding and placing in categories⁴. A comparison of comments from the old curriculum (1999-2012) and the new curriculum (2013-2016) was shown although fewer comments were available in the new curriculum evaluation.

CONCLUSION

Students in the old and new curriculum found that HistoPete was useful and that it was an effective learning tool. Students in the old curriculum thought that it was a good preparation for the lab meeting. Students wanted larger images with higher resolution. Students wanted "more" – more images, more questions, develop more links, more interaction. Students pointed out that some irrelevant material was presented. Technical issues may have been caused by personal computers interacting with the HistoPete site. With the increasing availability of good didactic online material in the form of videos, image arrangements, mobile applications⁵, and free access to institutional sites, HistoPete is in need of improvement in the areas of image quality (size and resolution). HistoPete appears to be useful in the new curriculum but should be adapted in certain areas to provide additional links between normal, pathology, and physiology. Caution should be taken to provide a learning tool and not just an identification exercise.

REFERENCES

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