

EFFECT OF ASSESSMENT MEDIA ON STUDENT PERFORMANCE IN HISTOLOGY IDENTIFICATION TASKS

Suzanne Ollerenshaw^a, Diana J. Oakes^b, Helen E. Ritchie^b

Presenting Author: Suzanne Ollerenshaw (slo@anatomy.usyd.edu.au)

^aDiscipline of Anatomy & Histology, Sydney Medical School, The University of Sydney, Camperdown NSW 2006, Australia

^bDiscipline of Biomedical Science, Sydney Medical School, The University of Sydney, Camperdown NSW 2006, Australia

KEYWORDS: histology, assessment, performance, student attitude

BACKGROUND

Traditionally, Histology is taught and assessed using a microscope and glass slides in practical classes. However a cross-disciplinary approach to teaching with integration of anatomy and pathology, whilst pedagogically sound, in practice means that the Histology content forms just part of an assessment. For efficiency, assessment then relies on printed images (colour or black and white) rather than a microscope. As identification tasks rely heavily on the quality of images it is important to determine what effect the different media used in teaching, versus assessment, has on student performance.

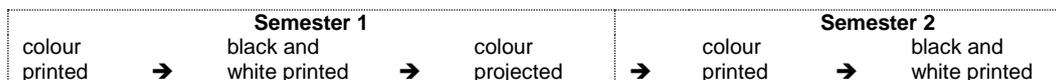
AIMS

The aims of the study were to compare student's performance in assessment identification tasks using different media for images. Student perception of these images was also surveyed.

DESIGN AND METHODS

A single cohort of second year Medical Science students (240) enrolled in five Units of Studies over two semesters was surveyed. The content covered in each unit examined the histology and anatomy of different body systems.

Histology images in each assessment were provided in the following sequence:

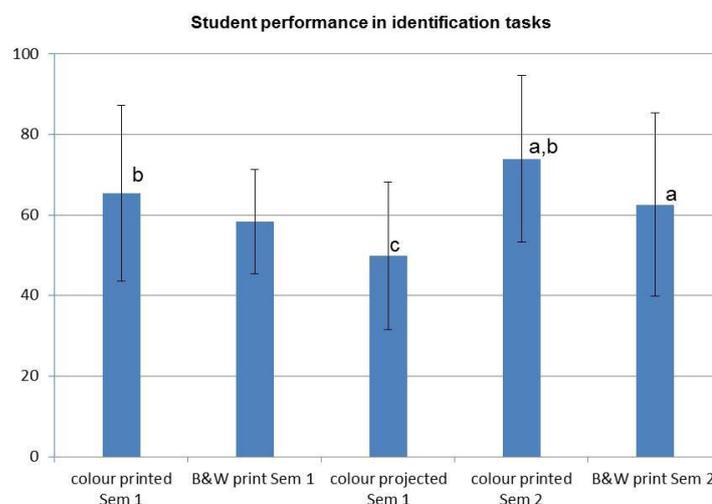


At the end of the fifth assessment, students were surveyed on their attitudes to the different media used in the assessment. Mean marks for identification tasks were compared using paired t-tests.

RESULTS

STUDENT PERFORMANCE

Students performed significantly better in identification tasks using colour printed images compared with black and white or projected images.



^a Sign different than Semester 1, $p < 0.05$

^b Sign different than black and white printed in same semester, $p < 0.05$

^c Sign different than colour printed in same semester, $p < 0.05$

STUDENT PERCEPTION

Sixty eight percent of students were satisfied with the method of testing and agreed that the exam format adequately assessed the learning outcomes. The majority of students did not want to be examined using a microscope, however they would appreciate images of varying magnification of the one tissue. Students felt it would be easier to pass an exam if slides were printed (52%) rather than projected (26%) or glass (22%).

CONCLUSIONS

Our students were not concerned when there was a mismatch between the method of teaching (glass slides) and the method of examination (printed or projected images). Overwhelmingly, their stated preference was for assessment using printed images, with a preference for colour. Very few students preferred to be examined with projected images or glass slides. This preference is reflected in the students' examination results. Students performed best when colour printed images were used and poorest with colour projected images. Performance improved between semesters in both black and white and colour printed tests suggesting improvement with experience. A clear confounder in this study is the difference in content between units of study. This is being explored further by repeating the process in a different sequence with a new cohort.

Proceedings of the Australian Conference on Science and Mathematics Education, University of Sydney, Sept 29th to Sept 30th, 2014, pages 66-67, ISBN Number 978-0-9871834-3-9.