

Comparing E-Learning vs. Traditional Classroom Instruction in Infection Control

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Objective: The purpose of this project was to evaluate e-learning versus traditional instruction in infection control for two groups of dental hygiene students by comparing related outcomes measured by written examination scores and competency-based clinical examinations (CBE).

Methods: The sample included two groups of junior students enrolled in the first semester of a dental hygiene program: fall 2007 had traditional classroom instruction in infection control (n=25); fall 2008 had web-based modules (n=26) designed by OSAP. Infection control instruction in the preclinical course is evaluated with a written examination constituting 5% of the final grade. Students in the traditional classroom group (n=25) had readings, lectures, and activities and were evaluated with an open book multiple choice examination. Students in the e-learning group completed online modules in infection control prior to the start of the academic year and completed the same written examination (with no open book). Outcomes also were compared from preclinical competency-based qualifying examinations for the same two groups. This preclinical examination tests performance of unit set-up according to infection control protocols.

Results The traditional classroom group's mean examination score was 93.3%, ranging from 86% to 100%. The e-learning group's mean examination score was 87.29%, ranging from 78% to 97%. All students (n=25) in the traditional classroom group passed the clinical examination on the first attempt (100%). In the e-learning group, 84.61% (n=22 of 26) passed on the first attempt with 100% passing after two attempts. Statistical analysis of these between group student outcomes is in progress.

Conclusions: E-learning appears to be a feasible alternative to classroom instruction for infection control in this dental hygiene program and may save time during initial student orientation. A blended approach with classroom activities to augment e-learning may be beneficial. Further evaluation is needed with a larger and more diverse population of students.