

Author	Lim, Catherine Abad
Title	Students' Academic Performance and Conceptual Knowledge in Microbiology and Parasitology taught with Problem Based Learning Approach"
Year	2013
Program	Doctor of Philosophy in Education (Biology Education)

## **ABSTRACT**

Problem-based learning (PBL) is a student-centered educational approach in which complex problems serve as the context and stimulus for learning. It was developed in medical education where traditional forms of instruction left students with plenty of knowledge but lack skills in using that knowledge in solving patients' problematic health cases. The lecture method in health science education by rote memorization promotes difficulty in achieving deep content learning with influences the learner's ability to apply knowledge to novel problems. It is in this context that this study aimed to investigate the effect of the PBL-based approach on students' academic performance and conceptual knowledge in the Microbiology and Parasitology course.

The study used a quasi-experimental research design and involved 62 second-year nursing students who were enrolled in a Microbiology and Parasitology course during the second semester of the academic year 2010-2011. These students were grouped into the control and treatment groups based on the teaching strategy employed. The control group received the conventional lecture approach while the treatment group received the PBL-based approach. The students' academic performance and conceptual knowledge were measured through the use of pre-posttests and final examination. The group did not differ in their pretest scores but showed significant differences in the posttest results (posttest I  $t = .000$ ;  $p > 0.05$ , posttest II  $t = .000$ ;  $p < 0.05$ ) in favor of the PBL group. Final Examination of the PBL group is significantly higher than the lecture group ( $t = .000$ ;  $p < 0.05$ ). While Wilcoxon signed-rank, the test revealed no significant difference between the pre and post-test (I and II) of the lecture group ( $p = 0.116$  and  $p = 0.092$ , respectively;  $p > 0.05$ ). The results indicated significantly higher academic achievement and better conceptual knowledge in the PBL mode. No statistically significant differences were found between male and female students in terms of their learning in Microbiology and Parasitology concepts thru PBL-based approach.