

## **Problem-based learning approach in physics courses: a case study of students' achievement international journal of education and research**

### **Abstract**

The study was set out to monitor students' achievement when exposed with two different approaches. The approaches that used were problem-based learning assessment (PBLa) and Conventional assessment (Ca). The study was carried out in Faculty of Science and Natural Resources, Universiti Malaysia Sabah involving students who registered under Physics with Electronic Programme. The main objective of this paper is to scrutinise on how PBLa and Ca might contribute to students' performance that leads to their final grade in total. Two physics courses (i.e., Waves and Optic (SF10603) and Thermodynamics (SF20503)) were chosen. Data was gathered from three (3) sequential different batches of students who registered for the courses. The courses were offered in every first (1st) and second (2nd) semester in each session (i.e., 2012/2013(N=28); 2013/2014 (N=57); and 2014/2015 (N=47)). In the first semester students were exposed with a course with mixed approach of PBLa and CBLa. The difference of students' achievement between the two were gathered. As in the second semester, same students were undergone with the same PBLa assessment for the second course and the data was gathered in. From the data analysis, the difference and the pattern outcome between these two semesters will be generalised. As a conclusion though in first semester some of students get higher CBLa marks as compare to PBLa (yet majority of students stated higher mark favour to PBLa), nevertheless they still maintain good grade as in the second semester as where the assessment were undergone PBLa totally. This paper also discussed type of assessments that carried out in PBLa and conventional approach.