

Course Assessment as a Means of Linking SLO's to PLO's

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Agenda

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Introduction

- Assessment of students promotes student's learning by providing them with a feedback, normally to help improve their performance.
- Assessment also evaluates student's knowledge, understanding, abilities, and skills.
- A mark or a grade provided by the assessment would be used to establish a standardized students' performance.

What is Assessment

- Assessment refers to all the tools used to measure the students learning.
- The most common tool of assessment is testing.
- The primary objective of testing is not to provide bases of grading, rather to assess students learning.

CLO, SLO and PLO

- The measurement provided by the assessment is the Learning Outcome (LO).
- There are different levels of learning outcomes such as Student Learning Outcome (SLO) or Course Learning Outcomes (CLO's), and Program Learning Outcome (PLO).

Purpose of Study

The purpose of this work is to shed light on a method used by the authors to:

- (1) get an effective feedback on their teaching method,
- (2) link between assessing the students learning (SL) and the certification or program learning (PL).

Study Setup

- The data used in this study was collected from two sections of an introductory physics course during one semester.
- The syllabus was the first source of data, where the LO's for all chapters and course activities were identified, then they were linked to the CLO's, the CLO's were linked to the PLO's, and finally linked to the National Qualification Framework domains of learning.

Sample of Slide shown to Student

Chapter 5 Newton's Laws of Motion

| Knowledge | Cognitive Skills |
|---|--|
| To state Newton's 1st Law of motion. | To relate force and motion. |
| To describe inertia and its relation to mass. | To explain what is meant by a net or unbalanced force. |
| To state Newton's 2nd Law of motion. | To explain Newton's 1st Law of motion. |
| To state Newton's 3rd Law of motion. | To distinguish between weight and mass. |
| To recognize the concept of normal force. | To explain Newton's 2nd Law of motion. |
| | To apply Newton's 2nd Law of motion to physical situations. |
| | To explain Newton's 3rd Law of motion. |
| | To identify action reaction force pairs. |
| | To apply Newton's laws in various situations using free body diagrams. |
| | To analyze various situations using free body diagrams. |

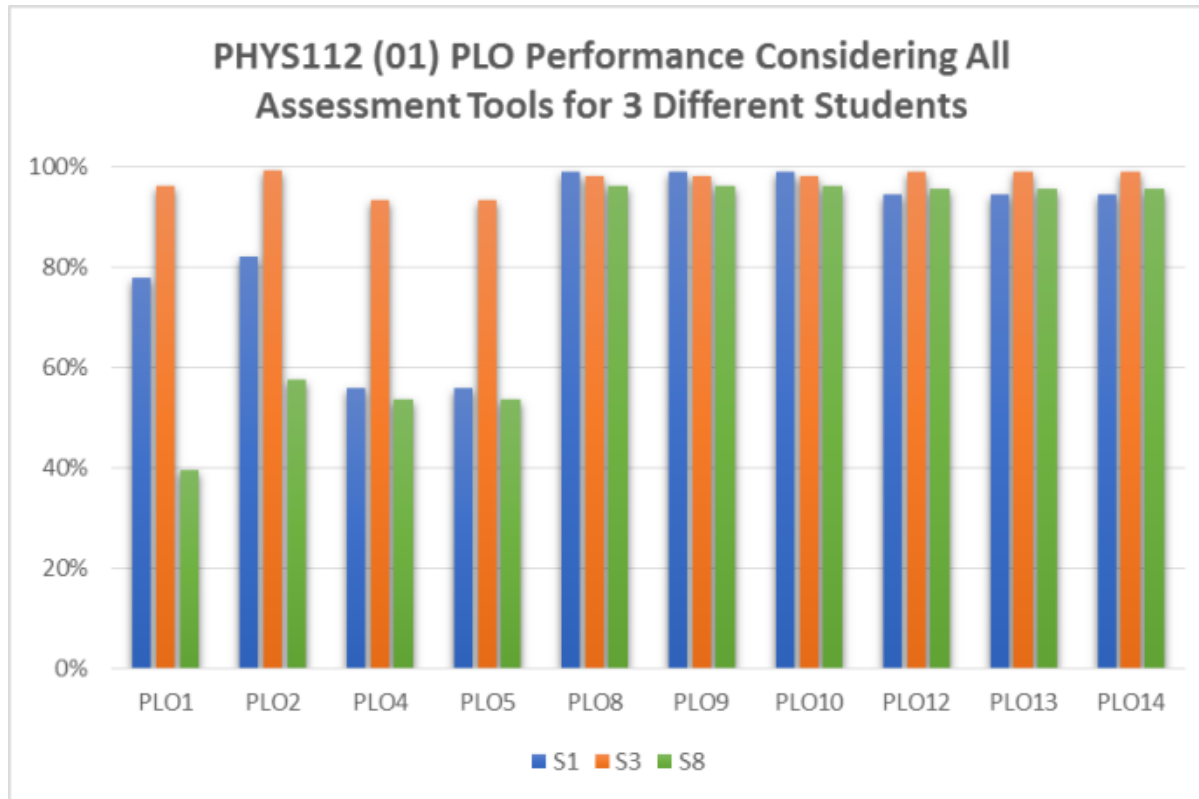
Mapping all Learning Outcomes

| Domain of Learning | PLO/SLO | CLO | Chapters LO's |
|---|---------|-------|--------------------------|
| Knowledge | PLO1 | CLO1 | c1LO1, c3LO2, c6LO7, ... |
| | PLO2 | CLO2 | c1LO3, c2LO1, c5LO1, ... |
| | | CLO3 | c4LO1, C7LO3, ... |
| | | CLO4 | |
| Cognitive Skills | PLO4 | CLO5 | c1LO2, c8LO1, c9LO3, ... |
| | PLO5 | CLO6 | c5LO3, c6LO2, ... |
| Interpersonal Skills and Responsibility | PLO8 | CLO7 | |
| | PLO9 | CLO8 | |
| | PLO10 | CLO7 | |
| Communication, IT, and Numerical Skills | PLO12 | CLO9 | |
| | PLO13 | CLO10 | |
| | | CLO11 | |
| PLO14 | CLO12 | | |

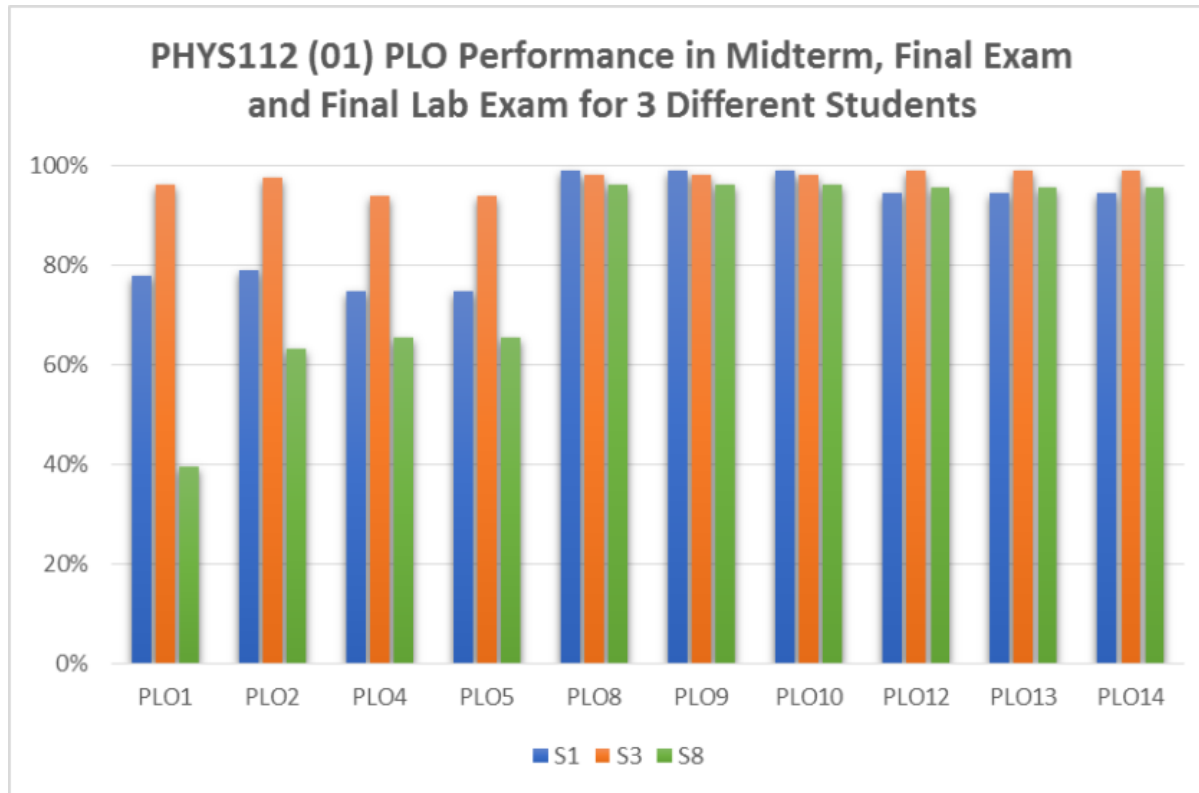
Assessment Tools

| PLO's | PLO1 | | | | PLO2 | | | | | | | | | | | |
|-----------|------------|----|---------|-----------|------------|----|---------|------------|-------|------------|----------|------------|----|---------|------------|-----------|
| CLO's | CLO1 | | | CLO2 | | | CLO3 | | | CLO4 | | | | | | |
| Assesment | Final Exam | | Midterm | Average % | Final Exam | | Midterm | Final Exam | | Online Qui | Lab Exam | Final Exam | | Midterm | Online Qui | Average % |
| | Q1 | Q2 | Q1-Q10 | | Q1 | Q2 | Q1-Q10 | Q2 | Q1-Q8 | | | Q1 | Q2 | Q11 | | |

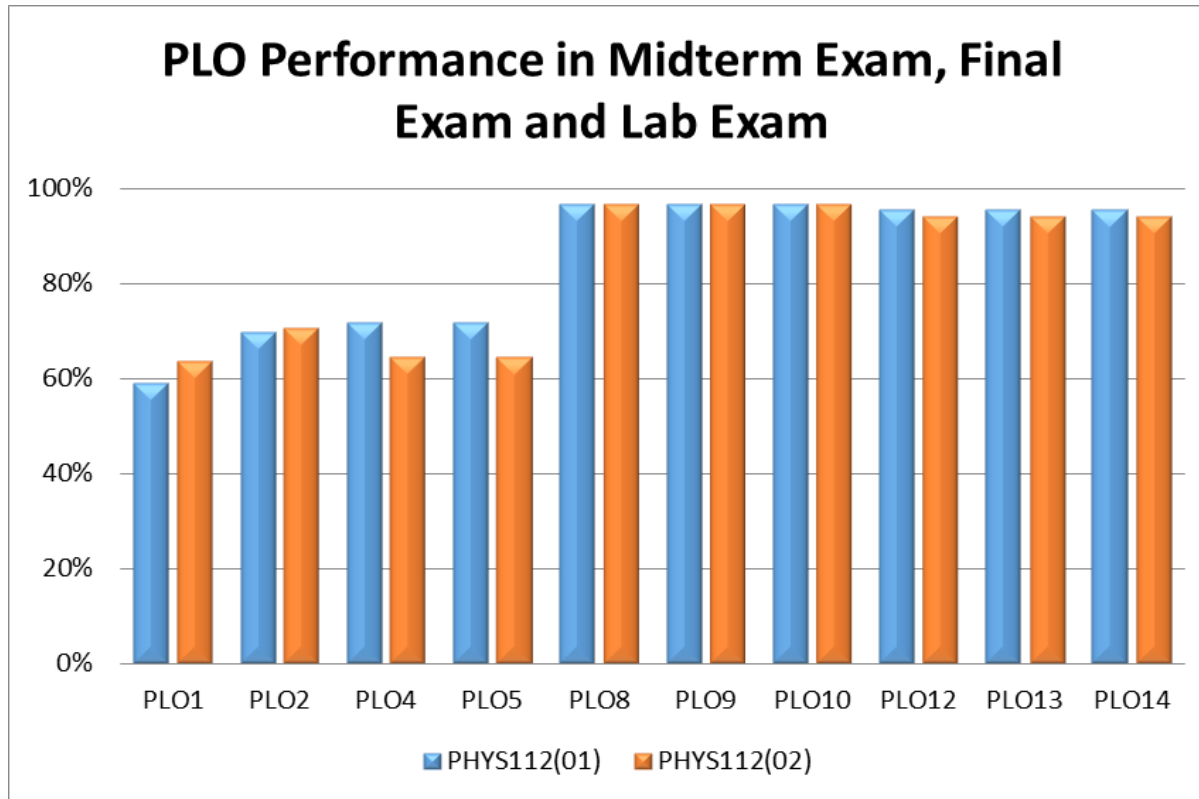
Results and Discussion



Results and Discussion



The Results as an Average indicator of the PLO



Concluding Remarks

- Specifying certain assessment tools to be part of the teaching and learning while others to be part of the assessment of students' performance was a very important task that had to be part of the teaching plan.

Concluding Remarks

- This is the first trial by the authors to establish a link between course learning outcome CLO's and program learning outcomes PLO's. The results were a very strong indication for continuous use of this metrics which need to be modified and improved for future use.



Thank You