



## Effective, Efficient, and Meaningful Program Assessment: Using New Technology

Dong Shen, California State University-Sacramento

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### Background and Purpose

For many academic programs in higher education, annual program assessment focusing on different yet rotating program learning objectives not only provides a continuous and systematic tool to monitor and improve program quality, but also prepares the program for a regular cycle of program review at the end of each cycle. However, for a long time, annual program assessment means extra work that requires large amount of time and resources yet often ends up with just a final report for administration purpose. How to make program assessment more effective and meaningful? This study has four objectives: (1) To experiment new technology for course assessment; (2) To experiment new technology for program assessment; (3) To examine how to streamline program assessment with individual courses; and (4) To explore more effective, efficient, and meaningful program assessment strategies.

### Study Development

The following process was developed and followed in this study.

1. Program Learning Objectives - Our program learning objectives (PLOs) were established based on ITAA META-Goals, and approved by Western Association of Schools and Colleges (WASC). There are total five PLOs.
2. Program Curriculum Map - A Program Curriculum Map was developed to align all the courses offered by our program with the five PLOs. How each PLO is introduced to, developed by, and mastered by students in each course is indicated in the map. Therefore, there is a series of courses identified in sequence to address each PLOs.
3. Critical Thinking Rubric (PLO3) - Annual program assessment is conducted each year to focus on one particular PLO. In this year, PLO3 on critical thinking needs to be the focus. In order to assess critical thinking skills, a program Critical Think Rubric was developed by modifying the Critical Think Rubric from the American Association of Colleges and Universities (AAC&U). Specifically, 4 items were identified: Define/Explain Program, Analysis/Evidence, Development Process, and Propose Solutions/Conclusion.
4. Program PLO Evidence Map - By combining the program Critical Thinking Rubric with all the courses offered by the program, a Program PLO3 Evidence Map was developed to

indicate how each one of the four items included in the program Critical Thinking Rubric is assessed by different courses. For example, which course aims to introduce the critical thinking skills to students? Which course aims to help students further develop their critical thinking skills? In which course, students are expected to master their critical thinking skills?

5. Courses Identification and Course Evidence Map - Two courses were identified to assess critical thinking. Course A is the first upper division fashion course students take and the majority of the students are juniors. Two assignments were used for data collection as pre-assessment and post-assessment. Course B is one of the last upper division fashion course students take and the majority of the students are seniors. Part 1 of a research project was used for the pre-assessment; Part 2 of the project was used for the post-assessment.

### **Data Collection, Analyses, and Results**

Both Course A and B were set up in Canvas and students were required to submit their work in Canvas. Learning Mastery Book was the technology adopted to do the course assessment. Specifically, the program Critical Thinking Rubric was uploaded to both Course A and B Canvas page and was adopted for the assignments in Course A and the research project in Course B. When each instructor graded students work by using the rubric, different from the regular gradebook page, on Learning Mastery page, students critical thinking skills were assessed and presented for each one of the four items in the rubric. After the pre-assessment assignment was graded, the instructor was able to see individual student's performance immediately, such as which student needed more help in which area, and which student performed well in which area. By using the results showing in Learning Mastery Book, the instructor provided specific guidance to each student. Then when students were ready to work on the post-assessment assignment, they knew exactly what area they needed improvement. A similar step was taken for the post-assessment assignment and a set of post-assessment data was collected.

Anthology, previously known as Campus Labs, is an online system to enter, track, and monitor the planning and assessment activities for accreditation. Our program has an account created on Anthology with all PLO1, PLO2, PLO3, PLO4, and PLO5 included and all our courses were included as well. The data in the Learning Mastery books of Course A and Course B were transported to the Anthology platform. Anthology generated the pre- and post-assessment results for both Course A and B, and the comparison between Course A and Course B. The results show an overall improvement of student critical thinking skills from pre-assessment to post-assessment in both Course A and Course B, respectively, on the individual course level. We also see an overall improvement of student critical thinking skills from Course A to Course B on the program level.

### **Conclusions and Implications**

On the course level, Canvas Learning Mastery Book and Anthology can be used to conduct assessment quickly and efficiently in an individual course. The immediate assessment data and report are available to the instructor quickly, which can serve as a guideline for the instructor to provide specific feedback to each student based on their pre-assessment performance. Then students are better prepared for the next assignment, and their post-assessment performance can often show improvement before the end the semester. By using this new technology, course assessment can be done more effectively and efficiently.

On the program level, if all the courses in one program adopt the technology (Learning Mastery Book and Anthology) and link all the course assessment to the program learning outcomes, then the program assessment can be done more effectively and quickly. Because when each instructor grades the assignments in their individual courses by using the same set of grading rubric developed for the program assessment, the grading data from each course can be used for the program assessment as well. In addition, assessment across different classes can be better connected cohesively to align with the program curriculum map and the program PLO evidence map. As a result, all the courses in the program can work together systematically to improve student learning according to the program learning outcomes.