

Instrument Enrichment Pilot Program: A Study

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ABSTRACT

The Medical Laboratory Science Department at the University of Massachusetts Dartmouth was awarded a grant in 2016 to create a laboratory enrichment pilot program to enhance the laboratory skills of sophomore-level students. This was necessary because of previous course failures in the junior-year Clinical Chemistry course (MLS 342) causing retention issues (with a 3-year unsuccessful average of 17.79%). In this study, data in the form of student surveys, laboratory-practical grades, and final course grades for MLS 342 are used for assessment of the program. Junior-level students who participated in the pilot program as sophomores completed a survey after finishing MLS 342. The majority (88.89%) of students indicated that they would strongly recommend the program to future sophomore students. Areas that students felt particularly prepared for in junior-level chemistry were

pipetting and dilution skills, spectrophotometer skills, total protein assays, standard curves, and exam preparation. The 2-sample t-test was used to compare the 3-year average MLS 342 course grade with the new data for students who took the pilot and those who did not. Students who took the pilot did statistically significantly better [86.669%, $p = 0.0078$, 95% confidence interval (CI) 1.0209, 9.3551] when compared with the 3-year average (81.481%) than those who did not (82.996%, $p = 0.2693$, 95% CI -3.4303, 6.4603). In addition, 100% of the students who took the enrichment program were successful in MLS 342. These data suggest that the pilot program contributed to increased student success in junior-year Clinical Chemistry. Positive student comments and ratings on survey data also support the utility of the pilot program.

Clin Lab Sci 2019;32(2):45

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