



Exploratory Analysis of Mathematics Modules for Student Success



Ms. Lynn Harbinson, Assessment Coordinator, Center for Academic Programs Assessment and Ms. Nedra Mahone, Interim Director of University Testing Services

BSU ALT-Placement team: Ms. Gayle Fink, Ms. Lynn Harbinson, Ms. Nedra Mahone and Dr. Becky Verzinski

INTRODUCTION

Since 2017, Bowie State University has participated in a pilot project with the University System of Maryland Office, USM institutions, other Maryland colleges and universities and EdReady, a developer of on-line college preparation modules.

The focus of the pilot is to develop an alternative placement (ALT-Placement) model for math for incoming students. Customized modules which identify areas of student need are used by the students. This gives students tools to increase their knowledge of mathematical concepts, thus increasing the likelihood of success in passing math courses.

Together the BSU's University Testing Services and the Center for Academic Programs Assessment are testing the use of these on-line customized mathematics modules as part of the process for placement of incoming students in mathematics courses.

RESEARCH METHODS

Bowie is one of several Maryland universities participating in this Kresge Foundation funded project. In summer 2017, BSU offered all incoming students the opportunity to use the modules prior to enrollment. Students who initially were placed into developmental math based on Accuplacer scores could use modules to achieve a combined target score of 80%. This gave them the opportunity to be transferred into college-level math courses.

RESULTS

A total of 334 pre-enrollment students who took the Accuplacer mathematics placement test during spring and summer 2017 also used the on-line ALT-Placement modules for customized mathematics preparation for college-level mathematics.

FALL 2017

Average mathematics passing rates (incoming students - all math courses):

- 57% - No use of math modules
- 63% - Used modules, didn't meet target*
- 82% - Used modules, met target*

Table 1: Average Mathematics Passing Rates for Incoming Students

Mathematics Course	% Passing
COMBINED AVERAGE PASSING RATE	57%
MATH 99	53%
MATH 125	63%
MATH 127	52%
MATH 141	62%
MATH 150	57%

*MODULE MASTERY TARGET MET @ 80%

CONCLUSION

Preliminary results indicate that incoming Bowie State University students who used the online mathematics modules prior to enrolling in mathematics courses passed any math course at a higher average rate than students not using modules.

DISCUSSION

Initial results indicate a benefit of using the customized mathematics modules. This pilot project is being continued in spring and summer 2018, and the results for student success in mathematics courses with module use will continue to be tracked and analyzed in fall 2018 and spring 2019. Results will be shared with mathematics faculty and campus administration and will inform future student placement strategies for mathematics. Results will also be shared at the 2019 Research Expo.

ACKNOWLEDGEMENTS

Thanks to the many students who took the time to use the modules during spring and summer 2017 to prepare themselves for college-level mathematics. Their participation provided BSU's ALT-Placement team with data to ascertain the efficacy of using this model of student mathematics preparation and placement.