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Early Identification and Early Intervention: Pre and Post Diagnostic Tests in Mathematics Courses

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Abstract : This study focuses on early identification of deficiencies in pre-required areas of students who are enrolled in College Algebra and Calculus I classes. The students were given pre-diagnostic tests on the first day of the class before they are provided with the syllabus. The tests consist of prerequisite, uniform and advanced content outlined by the University System of Georgia (USG). The results show that 48% of students in College Algebra are lacking prerequisite skills while 52% of Calculus I students are lacking prerequisite skills but, interestingly these students are prior exposed to uniform content and advanced content. The study is still in progress and this paper contains the outcome from Fall 2017 and Spring 2018. In this paper, early intervention used in these classes: two days vs three days meeting a week and students' self-assessment using exam wrappers and their effectiveness on students' learning will also be discussed. A result of this study shows that there is an improvement on Drop, Fail and Withdraw (DFW) rates by 7%-10% compared to those in previous semesters.

Keywords : student at risk, diagnostic tests, identification, intervention, normalization gain, validity of tests
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