

Results of Maryland’s System-level Developmental Mathematics Pathway Initiative

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In this quasiexperimental study, we compared the effects of new developmental statistics-based courses to traditional algebra-based developmental courses. We used extant data from eight institutions and a matched sample of 2,041 students (Treatment, $N = 748$; Comparison, $N = 1,293$). All students enrolled in a treatment or comparison course in the 2017–18 school year and did not intend to declare a STEM major. After adjusting for covariates, we found evidence that treatment courses positively influenced whether students passed developmental mathematics ($\beta = .089, p < .001$). Seventy-seven percent of treatment students passed developmental mathematics compared to 69% of comparison students who passed. Treatment students were also more likely to enroll in a subsequent credit-bearing mathematics course than comparison students ($\beta = .139, p < .001$). Forty-nine percent of treatment students enrolled in the credit-bearing course compared to 34% of comparison students who did. Once enrolled in a credit-bearing course, treatment students successfully passed at a similar rate as comparison students ($p = .601$). Taking the treatment or comparison course did not significantly predict whether students remained continuously enrolled and/or graduated during the study ($p = .711$). We concluded that the treatment courses facilitated students’ ability to pass developmental mathematics and enroll in credit-bearing mathematics.

Keywords: developmental mathematics, developmental statistics, mathematics pathway, student success, mathematics reform, quasiexperimental analysis



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