

# The Cost Implications of Developmental Education Reform: Evidence from Students and Institutions in Florida

## Purpose

Developmental education has significant cost implications for both students and institutions, as approximately \$7 billion is spent annually on developmental education nationwide (Scott-Clayton, Crosta, & Belfield, 2014). To address concerns about the cost and effectiveness of developmental education, Florida lawmakers passed Senate Bill (SB) 1720 in 2013. This legislation greatly reduced the number of students required to take developmental education, and also required colleges to offer different instructional modalities for students remaining in developmental education. We examine how costs to both students and institutions changed due to differences in college coursetaking patterns before and after the reform, and whether cost savings differ by racial/ethnic subgroup. We also take into account changes in short-term costs relative to gateway completion rates to examine whether the reform is cost effective overall.

## Background

SB 1720 required public two-year institutions to implement comprehensive reforms to their developmental education programs, including making recent high school graduates and veterans/military personnel exempt from developmental courses. A primary rationale of SB 1720 was to reduce spending on developmental education. The assumption was that as more students became exempt, they would take fewer developmental courses and progress directly to gateway courses, thus reducing the total number of credits attempted. Yet this assumption may not hold if students are unable to successfully pass gateway courses on their first attempt, particularly since Florida students are required to pay the full cost of instruction after failing the same course twice, which is approximately 4 times greater than the subsidized in-state tuition rate. Changes in the pathways that students take to gateway courses also have cost implications for institutions, as developmental education courses are more expensive to provide, costing Florida institutions \$218 per credit hour compared to \$181 per hour for gateway courses.

## Methods

We examine whether students in the pre- and post-policy cohorts completed a gateway course by the end of year 3, comparing outcomes at the same time point in students' educational careers.

We begin by estimating the cost ( $C$ ) to the first gateway course for student  $s$  as:

$$C_s = (\sum Credits_{initial} * Tuition_{instate}) + (\sum Credits_{retake} * Tuition_{outstate}) \quad (1)$$

where the total number of credits attempted is multiplied by the in-state tuition rate for the initial two attempts, and by the out-of-state tuition rate for additional retakes.

We then calculate the average student cost as:  $\bar{C}_s = \frac{\sum C_s}{n}$ , (2)

where the sum of the individual student costs is divided by the total number of students in the sample. We also disaggregate student cost savings by racial/ethnic subgroups.

The cost to institutions takes into account the different cost per credit hour for institutions to provide pre-gateway and gateway courses, and is calculated for each institution  $i$  as:

$$C_i = (\sum Credits_{pregateway} * Cost_{pregateway}) + (\sum Credits_{gateway} * Cost_{gateway}) \quad (3)$$

We then calculate the average institution cost as:  $\bar{C}_i = \frac{\sum C_i}{n}$  (4)

where the sum of the individual institution costs is divided by the total number of students in the sample.

To examine whether student pathways to the first gateway course are more cost effective under SB 1720, we calculate a cost-effectiveness ratio (CER) as follows:

$$CER = \frac{N_{cohort}(\bar{C}_s + \bar{C}_i)}{N_{completers}} \quad (5)$$

### Data

The data consists of student-level records for all first-time-in-college students at Florida's 28 state colleges for one cohort before SB 1720 and one cohort after. Students are tracked for eight semesters from the first fall semester of college enrollment until the spring semester of the third year.

### Findings

Our results indicate that Florida's developmental education reform has contributed to cost savings to both students and institutions. The average cost of the pathways taken to complete the first gateway course in English decreased by \$69 for students and \$187 for institutions. In math the average cost savings were \$107 for students and \$179 for institutions. The benefits were greatest for black students, with cost savings two to four times greater than for white students.

The total number of credit hours attempted by students declined after the reform, particularly among pre-gateway courses which were more expensive for institutions to provide. In both subject areas, gateway course completion rates were 5 to 6 percentage points higher after the reform. The total cost per completer decreased after the reform by \$657 in English and \$1,559 in math. Both subject areas experienced similar efficiency gains of 26 to 27 percent.

### Significance

The results from Florida provide promising evidence that statewide developmental education reforms may be an effective mechanism for reducing costs. Reform efforts may also help to reduce racial/ethnic gaps in the costs to gateway completion in both subject areas, which has important implications for equity.