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### Assessing the Effectiveness of Developmental Education

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# Assessing the Effectiveness of Developmental Education

Blake J. Renner, Ed.D., Franklin University

## Overview

- Many students arrive at institutions of higher education underprepared to complete college-level coursework (Center for Community College Student Engagement, 2016; Mulvey, 2008; Parks, 2001; Payne & Lyman, 1996; Schmidt, 2006; Stephens, 2001; Tierney & Garcia, 2008; U.S. Department of Ed, Office of Planning, Evaluation and Policy Development, 2017).
- Developmental education programs are required to address these inadequacies in student preparation.



## Definitions

- Coarsened Exact Matching: A quasi-experimental matching technique which creates a control and treatment group, whose unobserved characteristics are not systematically related to the outcome of interest, thereby approximating a randomized controlled trial (Iacus, King, & Porro, 2009).
- Developmental Education: “A Broad range of courses and services delivered in an effort to help retain students and ensure the successful completion of their postsecondary education goals” (Boylan & Bonham, 2007, p. 2).
- Underprepared Students: College students who enter institutions of higher education and are not ready to complete college-level work.

## Purpose

Determine the relationship between developmental education programs in West Virginia four-year higher education institutions and the success of the students in these programs, as measured by bachelor’s degree completion and the number of years required to complete the degree program.

## Data

This study examined 17,168 incoming full-time freshmen students at West Virginia’s public four-year institutions of higher education in the 2002 and 2003 cohorts to determine who was required to take developmental educational courses and if those courses had any impact on their degree attainment.

## Methods

- Descriptive statistics (frequency, mean, and proportions) on the demographic makeup and academic preparation level of students who took developmental courses, compared with students who did not take developmental courses.
- Quasi-experimental research techniques were utilized to assess the differences in outcomes for students who participated in developmental education while controlling for selection bias.
- To compensate for the non-random placement methods in remedial education, this study addressed the issue of selection bias through coarsened exact matching.

## Findings

Comparison Descriptive Information.

Variable	Percentage/Mean		
	Did Not Take Dev. Courses	Took Dev. Courses	Full Population
N	12,574	4,594	17,168
Male	51.2%	44.1%	49.3%
African-American	3.3%	8.6%	4.7%
In-State Resident	61.6%	82.9%	67.3%
Economically Disadvantaged	15.9%	45.5%	23.8%
High School GPA	3.32	3.03	3.25
Composite ACT	22.85	18.97	21.81
Graduated in Six Years	56.8%	33.3%	50.5%
Terms to Graduation*	12.61	13.98	12.86

\*Among those who graduated.

### Additional Descriptive Information

- The majority of this population was white ( $n=15,897$ ; 92.6%), which correlates with the population in West Virginia.
- Some students required only one developmental class ( $n=1343$  or 29.2%).
- Most students who took developmental education required more than one developmental class ( $n=3,267$  or 70.8%).

### Taking Developmental Education

- Students who took developmental education courses were less likely to graduate compared with those students who were not required to take developmental education courses.
- Taking developmental courses increased time to degree completion (0.848 terms to degree completion), compared with similar students who did not take developmental education courses.

### Taking & Passing Developmental Education

- Taking and passing developmental education courses did not have an effect on the likelihood of graduation when compared with similar students who did not take developmental education courses.
- Taking and passing developmental courses increased time to degree completion (0.791 terms to degree completion), compared with similar students who did not take developmental education courses.

## Discussion

Results of this study call into question the effectiveness of developmental education programs.

- Students taking developmental education courses were less likely to graduate than those who did not take these courses
- Students who graduated took one semester longer to do so.

Although the results of the study suggest a bleak prospect for developmental education, it does provide an opportunity to obtain a college education.

- One-third of the students who were underprepared to complete college level work were still able to complete their degree within six years with the assistance of developmental education programs.
- Only 56.8% of all students who did not take developmental education graduated within six years.

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