Volume 17 Issue 16
Originally issued as G5



Global Journal of human-social science: G
Linguistics & Education
Volume 17 Issue 5 Version 1.0 Year 2017
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460x & Print ISSN: 0975-587X

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GJHSS-G Classification: *FOR Code: 139999*



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Differences in Graduation and Persistence Rates at Texas Community Colleges as a Function of Developmental Education Enrollment

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I. Introduction

Providing academic support for underprepared students has been a part of higher education in the United States since at least the 1800s (Boylan & Saxon, 1998; Casazza, 1999). Today, the need for developmental education continues. According to the National Center for Education Statistics (2003), 42% of entering community college students nationwide enroll in at least one developmental education course.

According to the Texas Higher Education Coordinating Board (2012), 41% of Texas students enrolled in public higher education at any level require some form of developmental education. In 2010, the Texas Higher Education Coordinating Board began an initiative to transform developmental education. The initiative, Developmental Education Demonstration Projects, was "designed to fundamentally reform a system that is failing students nationwide" (Texas Higher Education Coordinating Board, 2012, p. 2). The stated goal of the Demonstration Projects was "to boost completion rates among at-risk students by improving remediation programs at colleges and universities" (Texas Higher Education Coordinating Board, 2012, p. 2). In 2011, Complete College America funded a separate initiative, the Fundamentals of Conceptual Understanding & Success (FOCUS) Program. Fifteen Texas community colleges participated in professional development during fall 2011 for spring 2012 FOCUS course implementation (Texas Higher Education Coordinating Board, 2012, p. 3). Evaluation information is not currently available for the Texas FOCUS Program. However, the Demonstration Projects have been evaluated.

Booth et al. (2014) used both extant data and qualitative interviews to evaluate Texas state-funded Developmental Education Demonstration Projects at five state community college systems and four public universities. Booth et al. (2014) noted that state-level coordination and funding were important components that allowed the study sites to improve their developmental education programs. The Texas Higher Education Coordinating Board intended "to bring the identified scalable components to the entire state as a model and offer a state model nationally" (Booth et al., 2014, p. 2). Booth et al. (2014) stated that 62% of community college students and 73% of university students passed their developmental education courses. However, passing developmental education courses does not equate to overall college success. Booth et al. (2014) confirmed, "Ultimately success of college students is defined as graduating from either a two-year or a four-year program" (p. 3).

Efforts in Texas to transform developmental education directly relate to the mission of the state's community colleges. Since their emergence, community colleges have provided open access to higher education. According to the American Association of Community Colleges (2016), "community colleges have been inclusive institutions that welcome all who desire to learn" ("About Community Colleges," para. 1). In the fall of 2010, almost 80,000 Texas students enrolling in college were not college ready by Texas standards (Texas Higher Education Coordinating Board, 2012). Of those students, 86% enrolled at community and technical colleges. In other words, "more than 8 in 10 students requiring developmental education attended community & technical college" (Texas Higher Education Coordinating Board, 2012, p. 1). It is, therefore, the mission of Texas community

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colleges to provide effective remediation for those students who arrive not academically prepared for college-level work.

II. Statement of the Problem

In Texas, for the 2011 academic year, only 49.5% of students enrolling in community and technical colleges directly from high school were considered college ready (Texas Higher Education Coordinating Board, 2012). As recently as the 2009 through the 2013 academic years, those students who required developmental education graduated at roughly half the rate of students who did not require developmental education (Priesmeyer& Slate, 2015). Furthermore, those students who required developmental education persisted at a rate approximately 10% lower than students who did not require developmental education (Priesmeyer& Slate, 2015).

III. Significance of the Study

Many entering community college students are in need of successful remediation. If community college developmental education programs are not successful, those programs may be eliminated. As reported in the *Chronicle of Higher Education*, Florida voted in 2013 to make remedial classes and the related placement tests "optional for anyone who had entered a Florida public school as a ninth-grader in 2003 or later and earned a diploma" (Mangan, 2014, A11).

The Florida law was influenced by [Complete College America's] call for making college-level classes the default placement…. But even Stan Jones, president of Complete College America, worried that the Florida law had gone too far….'Our point has never been to put them in college classes and let them fail,' Mr. Jones said.... Thomas R. Bailey, director of the Community College Research Center at Columbia University's Teachers College, agreed. His research has been cited by states eager to cut back on remedial instruction. 'Remediation didn't work and needed a radical overhaul, but I'm not sure I would have made it voluntary.' (Mangan, 2014, A11)

The field of developmental education urgently needs to improve the graduation and persistence rates of students who enter college in need of developmental education. Policymakers are all too eager to eliminate programs that are seen as ineffective.

IV. Purpose of the Study

The purpose of this study was to determine the extent to which enrollment in developmental education was related to graduation and persistence rates of Texas community college students. Specifically analyzed in this study were the graduation and persistence rates in the 2014 academic year (the entering Fall 2011 cohort) and in the 2015 academic year (the entering Fall 2012 cohort). An imperative exists to determine the effectiveness of the THECB's efforts to increase the success of students requiring developmental education.

V. Research Questions

In this study, the following research questions were addressed: (a) What is the effect of developmental education enrollment on graduation rates at Texas community college sin the 2014 academic year?; (b) What is the effect of developmental education enrollment on graduation rates at Texas community colleges in the 2015 academic year?; (c) What is the effect of developmental education enrollment on persistence rates at Texas community college sin the 2014 academic year?; and (d) What is the effect of developmental education enrollment on persistence rates at Texas community colleges in the 2015 academic year?

VI. Method

a) *Research Design*

The use of archival data in which the independent variable and the dependent variables had already occurred necessitated the use of a causal comparative design (Johnson & Christensen, 2014). Archival data were used to determine the degree to which differences were present in graduation and persistence rates as a function of developmental education status at Texas community colleges in the 2014 and 2015 academic years. Because only two groups were present (i.e., students who required developmental education and students who did not require developmental education), dependent samples *t*-tests were conducted to answer the research questions (Slate & Rojas-LeBouef, 2011).

b) *Participants and Procedures*

Archival data from the Texas Higher Education Coordinating Board (2016a) Interactive Accountability data system were used. Data were downloaded from the Texas Higher Education Coordinating Board Developmental Education Accountability Measures Data website for the 2014 and 2015 academic years. Data were obtained on all Texas community colleges for which data were available. Graduation rates and persistence rates of students who required developmental education and students who did not require developmental education were analyzed. Graduation was defined by the Texas Higher Education Coordinating Board (2016b) as, "For two-year institutions, it is the students who graduate with an associate degree or certificate within three years." Persistence was defined by the Texas Higher Education Coordinating Board (2016b) as, "The rate at which students persist in higher education, often as measured by the percentage of students who continue in higher education from one year to the succeeding year."

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VII. Results

Prior to conducting inferential statistics to determine whether statistically significant differences were present in graduation and persistence rates as a function of developmental education enrollment, checks were conducted to determine the extent to which the data were normally distributed. The majority of the standardized skewness coefficients (i.e., the skewness value divided by its standard error) and the standardized kurtosis coefficients (i.e., the kurtosis value divided by its standard error), were within the limits of normality, +/- 3 (Onwuegbuzie & Daniel, 2002). To be consistent, the decision was made to conduct parametric dependent samples *t*-tests to answer all four research questions. Dependent samples *t*-tests are an appropriate inferential statistical procedure to calculate when the variables (i.e., graduation rates and persistence rates) are related (Slate & Rojas-LeBouef, 2011). In this investigation, graduation and persistence rates were present for the same community colleges and were at the interval/ratio level of measurement.

For the first research question regarding graduation ratesin the 2014 academic year as a function of developmental education enrollment, the parametric dependent samples *t*-test revealed a statistically significant difference, $t(77) = -19.27$, $p < .001$. This difference represented a large effect size (Cohen's *d*) of 1.71 (Cohen, 1988). In the 2014 academic year, students who required developmental education had a graduation rate almost 12% lower than students who did not require developmental education.

Concerning the research question about graduation rates in the 2015 academic year, the parametric dependent samples *t*-test again revealed a statistically significant difference, $t(78) = -15.35$, $p < .001$, Cohen's $d = 1.36$, a large effect size (Cohen, 1988). Students who required developmental education had an 11% lower graduation rate than students who did not require developmental education in the 2015 academic year. Descriptive statistics for these analyses are delineated in Table 1.

Table 1: Descriptive Statistics for Graduation Rates as a Function of Developmental Education Status

Year and Status	*n* of community colleges	*M*	*SD*
2014			
Required	78	9.83	5.65
Did Not Require	78	21.73	8.06
2015			
Required	79	11.00	6.21
Did Not Require	79	22.17	9.77

For the third research question regarding persistence rates in the 2014 academic year as a function of developmental education enrollment, the parametric dependent samples *t*-test revealed a statistically significant difference, $t(77) = -12.46$, $p < .001$. This difference represented a large effect size (Cohen's *d*) of 0.85 (Cohen, 1988). In the 2014 academic year, students who required developmental education persisted at a rate 7.6% lower than students who did not require developmental education.

For the research question regarding persistence rates in the 2015 academic year, the parametric dependent samples *t*-test again revealed a statistically significant difference, $t(78) = -9.73$, $p < .001$. This difference represented a moderate effect size (Cohen's *d*) of 0.72 (Cohen, 1988). Students who required developmental education had persistence rates 7.1% lower than students who did not require developmental education in the2015 academic year. Readers are directed to Table 2 for the descriptive statistics for these analyses.

Table 2: Descriptive Statistics for Persistence Rates as a Function of Developmental Education Status

Year and Status	*n* of community colleges	*M*	*SD*
2014			
Required	78	23.87	8.26
Did Not Require	78	31.53	9.47
2015			
Required	79	24.56	9.20
Did Not Require	79	31.68	10.46

VIII. Discussion

Analyzed in this investigation were the graduation and persistence rates as a function of developmental education at Texas community colleges in the 2014 and 2015 academic years. Students who required developmental education graduated at a rate statistically significantly lower than students who did not

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require developmental education. Students who required developmental education also persisted at a statistically significantly lower rate than students who did not require developmental education. Even after Texas state initiatives in 2010, 2011, and 2012 intended to transform developmental education (Texas Higher Education Coordinating Board, 2012), the cohorts of students entering in Fall 2011 and Fall 2012 graduated and persisted at starkly different rates as a function of their developmental education enrollment. Persistence rates for the cohort of students who required developmental education who entered in 2012 were near 5-year lows in the 2015 academic year at 24.56%, lower than when they entered. Persistence rates for students who required developmental education were 26.28% in the 2012 academic year (Priesmeyer & Slate, 2015).

Lest readers over generalize the findings of this study, the sample of students whose data were analyzed herein was limited to community college students in Texas in the 2014 and 2015 academic years only. Therefore, the generalize ability of these results to other groups of students is not known. Additionally, Boylan and Saxon (1998) suggested caution when using long term retention and graduation rates to evaluate the worth of early college interventions. Boylan and Saxon (1998) suggested, "it is best to consider retention and graduation rates for developmental students within the context of the general institutional rates of retention and graduation" (p. 11). Within the context of their respective institutions, "developmental students perform slightly better than other students at two-year institutions and slightly worse at four-year institutions" (Boylan & Saxon, 1998, p. 12). However, the results of this study are congruent with current research in the field (Bailey & Cho, 2010; Bailey, Jeong & Cho, 2010).

References Références Referencias

1. American Association of Community Colleges. (2016). *About community colleges*. Retrieved from http://www.aacc.nche.edu/ABOUTCC/Pages/default.aspx
2. Bailey, T., & Cho, S. (2010). *Issue brief: Developmental education in community colleges*. Community College Research Center, Columbia University. Retrieved from http://ccrc.tc.columbia-.edu/publications/developmental-education-in-community-colleges.html
3. Bailey, T., Jeong, D., & Cho, S. (2010). Student progression through developmental sequences in community colleges. Community College Research Center Brief. Retrieved from http://ccrc.tc.columbia-.edu/media/k2/attachments/student-progression-through-developmental-sequences-brief.pd
4. Booth,E. A., Capraro, M. M., Capraro, R. M., Chaudhuri, N., Dyer, J., & Marchbanks, M. P., III. (2014). Innovative developmental education programs: A Texas model. *Journal of Developmental Education, 38*(1), 2-18. Retrieved from http://ncde.appstate.edu/publications/journal-developmental-education-jde
5. Boylan, H. R., & Saxon, D. P. (1998). The origin, scope, and outcomes of developmental education in the 20th century. In J. L. Higbee & P. L. Dwinell (Eds.), *Developmental education: Preparing successful college students* (pp. 5-13). Columbia, SC: University of South Carolina.
6. Casazza, M. E. (1999). Who are we and where did we come from? *Journal of Developmental Education, 23* (1), 2-7. Retrieved from http://ncde.appstate-.edu/publications/journal-dev - elopmental-education-jde
7. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
8. Johnson, R.B., & Christensen, L.B. (2014). *Educational research: Quantitative, qualitative, and mixed approaches* (5th ed.). Los Angeles, CA: Sage.
9. Mangan, K. (2014). Florida's shake-up of remedial education brings a variety of headaches. *Chronicle of Higher Education*, 61(15), A11.
10. National Center for Education Statistics. (2003). *Remedial education at degree-granting postsecondary institutions in fall 2000*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement. Retrieved from http://nces.ed. gov/pubs2004/2004010.pdf
11. Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools, 9*(1), 73-90.
12. Priesmeyer, K. M., & Slate, J. R. (2015). *Differences in graduation and persistence rates at Texas community colleges as a function of developmental education enrollment*. Manuscript submitted for publication.
13. Slate, J. R., & Rojas-LeBouef, A. (2011). Calculating basic statistical procedures in SPSS: A self-help and practical guide to preparing theses, dissertations, and manuscripts. Ypsilanti, MI: NCPEA Press.
14. Texas Higher Education Accountability System. (2016a). *Developmental education accountability measures data*. Retrieved from http://www.txhighereddata.org/reports/performance/deved/
15. Texas Higher Education Accountability System. (2016b). *Glossary of terms.* Retrieved from http://www.thecb.state.tx.us/reports/PDF/1316.PDF?CFID=41401548&CFTOKEN=33399768
16. Texas Higher Education Coordinating Board. (2012). *Transforming developmental education*. Retrieved from www.thecb.state.tx.us/download-.cfm?downloadfile=E50254DD

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