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# **Disappointment for Kansas GED® Students Transitioning to Postsecondary: The Black Hole of Developmental Education (Empirical Research)**

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Key words: adult basic education, GED®, development education, pathways, postsecondary

**Abstract:** This research uses national and state studies to inform quantitative analysis of adult education students who successfully transition into a postsecondary program. The complexity of this issue precludes making simple causal relations between GEDs enrolling in developmental education courses and successfully earning a certificate and degree.

## **Introduction**

The general definition of a black hole is “an object whose gravitational pull is so intense that nothing, not even light, can escape it once inside” (NASA, 2003, ¶ 1). Several studies have found that nearly 60% of students entering community colleges take at least one development course, and only about 25% of these students received a degree or certificate in 8 years (Bailey, Jeong & Cho, 2008; Bailey 2009). In comparison, the National Education Longitudinal Study reported about 40% of student who did not enroll in any developmental courses completed a degree or certificate (Attewell, Lavin, Donima, & Levey, 2006). For students who have transitioned from an adult education program and earned a GED® the percentage who are referred to developmental education courses is very close to same as traditional students (Guison-Dowdy & Patterson, 2011).

The definition of *developmental education* is a postsecondary system of remedial, noncredit classes courses designed to prepare high school graduates and GEDs to succeed in credit bearing classes. Though students enrolling in a postsecondary school may have earned a high school diploma or passed the GED®, most take a college placement test, such as ACCUPLACER™ or COMPASS™, to assess their reading, writing, math, and computer skills. Based on these tests many students entering postsecondary schools are placed in remedial developmental education, and they will complete a postsecondary degree or certificate at a lower rate than their fellow students who are not placed in these programs. These unfortunate students experience the black hole of developmental education.

## **Purpose**

This research uses national and state studies to inform quantitative analysis of Kansas adult education students who successfully transition into a postsecondary program. The complexity of this issue precludes making simple causal relations between GEDs enrolling in developmental education courses and successfully earning a certificate and degree. For example, many GEDs at one time or another struggled with formal education, and many are from low-

income families and neighborhoods, all of which are mitigating factors impacting postsecondary success. The purpose of this paper is to add insight to the systematic failure of developmental education as a strategy for postsecondary success.

### **Perspective**

Students who drop out of high school and decide later to earn a diploma or a postsecondary degree often enter an adult education program to prepare for the GED<sup>®</sup> or some other high school equivalency test. The GED<sup>®</sup> was initially developed for returning World War II veterans to earn a high school equivalency or certificate in order to enroll in college or gain employment (Rose, 1995). Today most high school dropouts wanting to enter the labor market pursue the GED<sup>®</sup>. Yet the GED<sup>®</sup> is not enough in today's economy, which demands higher skilled workers. Nationally, there is interest in identifying pathways adults and nontraditional students follow when transitioning from secondary to postsecondary education. Both public and private-funded research projects are currently examining this issue. One such investment is a two-year project conducted by the National Center for Higher Education Management Systems (NCHEMS) with funding from the Bill and Melinda Gates Foundation, that examined state policies that foster student progression and success in the 'adult re-entry pipeline' (Boeke, Zis, & Ewell, 2011). In 2007, the U.S. Department of Education Office of Vocational and Adult Education (OVAE) also signaled its continued commitment to address this issue by awarding four grants through the *Ready for College: Adult Transitions Programs* to implement projects focused on improving the quality of adult secondary education, so that out-of-school youth can successfully transition to postsecondary education (U.S. Department of Education, 2009).

### **Research Design**

This research uses recent research in Kansas that analyzed the pathways of 532 adult education students who and successfully transitioned into a postsecondary program (Zacharakis & Wang, 2014), and several state and national studies that analyze the impact of developmental education on successfully completing a postsecondary program (Bailey, Jeong & Cho, 2008; Guison-Dowdy & Patterson, 2011; Jenkins & Weiss, 2011; Patterson et al., 2010; Reder, 2007; and Taylor, 2014). The Kansas demographic analysis of adult education students explores two and three-way interactions of demographic and educational achievement variables, while the other studies analyze completion rates for students who first enrolled in developmental education. This research looks for common themes and contradictions between these studies.

### **Findings**

Though developmental education is intended to prepare students to succeed in postsecondary courses and programs, research finds that students who take developmental education are either less likely to succeed or that these remedial programs do not make a difference in student success. Yet, community colleges continue to use placement tests to refer more than half their students to at least one developmental education course. Moreover enrolling in developmental courses is not without costs, as they still require tuition payments, extend the time to completion, and do not count toward degree or certificate completion.

A comprehensive Texas study found that 41% of all high school students entering postsecondary require some developmental education and 80% attend community colleges. Only 28.2% of this group completes the developmental education coursework, and only 14.2% complete college level courses (Taylor, 2014, p. 6). In Kansas 42% of those students enrolling in community colleges and 16% enrolling in four-year colleges or universities are placed in one or more remedial courses. Approximately 64% complete the remedial coursework in Kansas' community colleges, and only 17% of these students completed the remediation and college level coursework within two years (Kansas Board of Regents, 2014, p. 4). Bailey (2009) used several national studies to reveal that approximately 60% of all students entering community colleges take at least one developmental education or remedial course, but that this percentage underrepresents the problem because some states do not require remedial coursework even though a student's placement test indicates that they should enroll in these courses. The National Education Longitudinal Study (Attewell, Lavin, Domina & Levey, 2006) showed that while two thirds of students pass their reading and writing developmental education courses, less than one third complete their developmental education courses.

The limitation of these types of studies is that they compare developmental education students to all students without considering mitigating or causal factors that can account for successful completion. To fully understand the impact and/or importance of developmental education, academically similar student need to be compared. Several studies have shown that developmental education does have a positive impact when students at academically similar levels who take this coursework and those who don't take this coursework are compared, or when students just below the placement test cutoff are compared to those students just above the placement test cutoff (Boatman & Long, 2010). Another study of 100,000 community college students in Florida found that those students in development education had increased rates entering the second year and achieved higher total number of completed credits but there was no increase in degree completion (Calcagno & Long, 2008). Boatman and Long's (2010) analysis of a Tennessee longitudinal dataset showed that results vary between levels of remediation, where students at the upper margin needing little remediation experience a negative effect and for those students who are less prepared at the lower margin are more likely to have a positive effect.

Zacharakis and Wang's (2014) research analyzed a relatively small sample size ( $n=532$  students) with 42 factors. All students in the dataset were first enrolled in Kansas' public schools, then enrolled in a Kansas adult learning center, and then successfully transitioned into a Kansas postsecondary program from 2007 through 2012. They analyzed single factor, two-way and three-way interactions of all the factors, yielding 26,534 potential predictors. Since the sample size is much smaller than the degrees of freedom or potential predictors, classical regression cannot be used. Zacharakis and Wang used statistical methods developed for genomic and cancer research with high dimensional data where the number of predictors is much higher than the sample size, including the Nearest Shrunken Centroid classifier (Tibshirani et al., 2002); more commonly known as the Prediction Analysis of Microarrays (PAM). In this study there were two classes, one for failing to complete a postsecondary program and the other for successfully completing a program.

Zacharakis and Wang (2014) used two types of analyses. They first used a 10-fold cross validation, there are 10 model fittings and 10 predictions. This validation is an iterative process in which a subset is used to build the model and then the remaining subsets are used to test the predictions of the model. The process continues until every subset has been used as the test data. In the end, the predicted classifications from all subsets are compared to the observed

classifications to assess the proportion of correctly classified students by their program completion status.

Even though classification accuracy is reported using this analysis, the accuracy is not generalizable to future datasets since all subjects have been used in the model fitting and feature selection. Of the features analyzed five describe students who have a higher likelihood to successfully complete a program.

- Declared major in a stand alone program (a short term certificate): pass rate (where students completed more than 50% of their courses)
- No developmental education: declared major in stand alone program: pass rate
- Declared major in stand alone program: pass rate: no developmental math
- Declared major in stand alone program: entered postsecondary program in 2011: pass rate
- Declared major in stand alone program: female: pass rate

Zacharakis and Wang (2014) looked specifically at relatively young students, those who left a public high school, entered an adult education program, and successfully transitioned into a postsecondary program from 2007 through 2012. Of the 532 students in this study, 70 successfully completed a postsecondary program, 144 took at least one development education class, 283 were enrolled in a postsecondary in 2011, 361 had two years or less hiatus between leaving the adult education program and entering a postsecondary program, and 496 were 17 to 23 years old. These students as a group indicate a certain level of persistence in that almost all did not take more than a year or two off between earning their GED<sup>®</sup> and entering postsecondary, and they experienced success as indicated by their pass rate, suggesting that they fit Boatman and Long's (2010) group of students who needed little remediation. In the Kansas study only two of the seventy students who completed a postsecondary program enrolled in one or more developmental education courses (this number probably under reports the actual number of completers who take developmental education courses and will ultimately complete a program because many were still enrolled at the end of 2012).

### **Implications for Adult Education Practice**

The complexity of why adult education students succeed or fail in postsecondary programs is not as simple as academic performance on the GED<sup>®</sup>, the college placement tests, or in the classroom. If the student's goal is to succeed in a postsecondary program, adult education and the GED<sup>®</sup> preparation programs need to do better at aligning their curriculum with postsecondary programs. But this is not enough. We need to better understand why some students succeed and others fail to make the transition from adult education to postsecondary. Kansas's adult educators are working to strengthen support structures adult students need to successfully transition into a postsecondary program. Recent research shows that counseling and school support systems improve retention and therefore student success (Comings, 2007; Lau, 2003). One solution some Kansas adult learning centers are pursuing is to allow GED<sup>®</sup> passers and high school graduates who do poorly on the college placement exam to re-enter the adult learning center and strengthen their academic skills—this is a no cost alternative to enrolling in developmental education courses. As a group these studies suggest that better curriculum alignment is needed between ABE/GED<sup>®</sup>, developmental education, and postsecondary programs, as well as a seamless advising and counseling support structure. These changes are

necessary if adult educators want to eliminate the black hole of developmental education courses that results in an invisible student. The analysis of adult learner data in Kansas adult learning centers suggests that though enrolling in developmental education is a factor, it is only significant in conjunction with other factors.

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