

At a glance

This report presents data on the transition into postsecondary education of General Educational Development (GED) State of Florida High School Diploma recipients. The questions addressed are as follows:

Is there a relationship between a recipient's GED score and the probability of entering postsecondary education?

For those State of Florida High School Diploma recipients who entered postsecondary education, is there a relationship between GED scores and postsecondary remediation needs?

Results indicate that the higher the GED score, the more likely a GED recipient is to enroll in credit coursework in community colleges. Conversely, the higher the score, the less likely it is that a GED recipient will enroll in a career certificate program. Transition into community college coursework is more likely if the recipient took adult education classes at a community college before earning the GED. Participation in district adult education programs before taking the GED has little effect on postsecondary transition rates.

Among all State of Florida High School Diploma recipients in 2004 who sat for the Computerized Placement Test (CPT), only 9.2% were "college ready" as indicated by test scores. College readiness increased as GED scores increased. State of Florida High School Diploma recipients who transitioned to community college clock-hour certificate courses enrolled in fewer postsecondary preparatory courses and successfully completed a higher percentage of courses than State of Florida High School Diploma recipients who transitioned into community college credit courses. For many Florida High School Diploma recipients the transition into postsecondary education through career and technical education is a career pathway that can provide for lifelong learning, which is a key objective of workforce education in Florida.

Introduction

Included in the mission of the State of Florida Board of Education (section 1008.31, Florida Statutes) is the objective to "increase the proficiency of all students within one seamless, efficient system" and one of the goals is provide opportunities for "seamless articulation and maximum access" and "skilled workforce and economic development." In order to achieve this mission, the Florida Department of Education has developed the Next Generation PreK-20 Education Strategic Plan. Among the areas of focus are to improve college and career readiness, and to expand opportunities for postsecondary degrees and certificates. These goals and objectives are meant to apply not only to traditional students progressing through the educational system, but also to non-traditional students who, for a variety of reasons, take alternative paths. One of these paths for students that have left the educational system prior to obtaining a high school diploma is to earn a State of Florida High School Diploma by successfully completing the General Educational Development (GED) exam. Acquisition of this diploma provides individuals with both additional employment opportunities and access to postsecondary education. In order to take advantage of the educational opportunities these students must also develop skills to be

successful at each level and be prepared to enter a higher level through “one seamless efficient system.” This paper examines the first step in this progression, entering postsecondary education, and provides evidence supporting a position that they are more likely to be successful and have more opportunities for progression by entering postsecondary education through a career and technical education pathway.

Methods

The cohort of all State of Florida High School Diploma recipients in 2004 was tracked into State of Florida postsecondary institutions through the 2005-06 academic year to determine how many made that transition during that time period. For the purpose of determining transition, college preparatory courses are considered postsecondary although they do not count towards the postsecondary degree.

The Florida Department of Education’s GED Testing Office provided GED test results. The Florida Department of Education’s Education Data Warehouse (EDW) matched these records to postsecondary entry-level assessment and course data. The student-level data set included GED scores; Computerized Placement Test (CPT) scores; community college credit and college preparatory courses; clock-hour certificate course enrollment; district career certificate program and vocational preparatory instruction enrollment; and demographic information such as gender, race, and age.

GED score range categories used in these analyses were formed by dividing the scores into four quartiles so that each category contains one-quarter of the GED scores reported. These score categories were then used in all subsequent analyses.

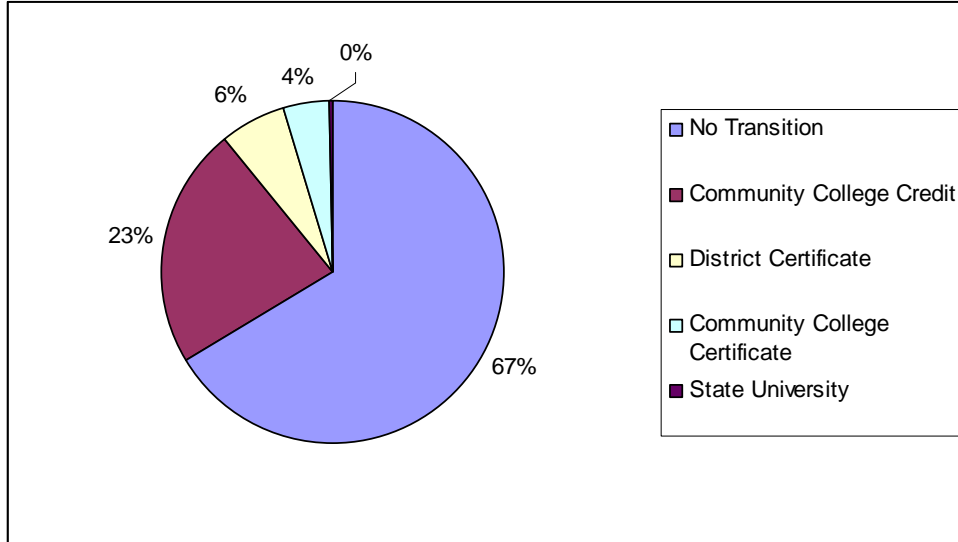
Findings

In 2004, 31,034 individuals were awarded a State of Florida High School Diploma by successfully completing the GED test. Successful GED test completion requires passing the five subtests with a minimum score of 410 each and a total score greater than or equal to 2,250. The maximum total GED test score possible is 4,000; the maximum found in the current analysis was 3,950. By the end of the 2005-2006 reporting year, 33.5% had enrolled in one or more postsecondary courses at a state public education institution.¹ During that period, 22.8% enrolled in community college courses, 4.2% enrolled in community college career certificate courses, 6.1% enrolled in district career certificate programs, and 0.4% enrolled in state university courses (see Exhibit 1). In comparison, Reder (2007) reported a 63% nationwide transition rate for high school graduates with a standard diploma. The Florida Department of Education (2007) reported a 59% secondary-to-postsecondary transition rate for Florida 2004-2005 high school graduates with a standard diploma. These findings indicate that State of Florida High School Diploma recipients’ immediate postsecondary transition rate of 33.5% is 25 to 30 percentage points lower than the transition rate of secondary school graduates with a standard high school diploma.

¹ This is consistent with Reder’s (2007) 27% GED transition rate based on national data.

Exhibit 1

33.5% of State of Florida High School Diploma recipients in 2004 enrolled in postsecondary education by the end of the 2005-06 academic year; most who made the transition enrolled in community college courses.



The transition rate varies by race (see Table 1). Asians had the highest rate of transition (56.3%) followed by blacks (37.5%), Pacific Islanders (35.4%), Hispanics (35%), Whites (31.6%), and American Indians (26.6%). The differences in rates results in small differences between the race/ethnicity distribution of all GED recipients and only those who make the transition to postsecondary education (see Exhibit 2). Two thirds (66%) of State of Florida High School Diploma recipients in 2004 were white, 17% were black, and 15% were Hispanic. Among those who transitioned to postsecondary education, a slightly smaller percentage were white (60%) and the percentage of blacks and Hispanics was marginally higher (19% and 16% respectively).

Table 1
Transition rates vary by race.

Race Category	GED Recipients	GED Transitioners	Transition Rate
Asian	444	250	56.3%
Black	5,302	1,987	37.5%
Pacific Islander	147	52	35.4%
Hispanic	4,645	1,624	35.0%
White	20,235	6,400	31.6%
American Indian	259	69	26.6%
Total	31,032	10,382	33.5%

Exhibit 2

The race/ethnicity distribution among all GED recipients and only those who transition to postsecondary education is comparable.

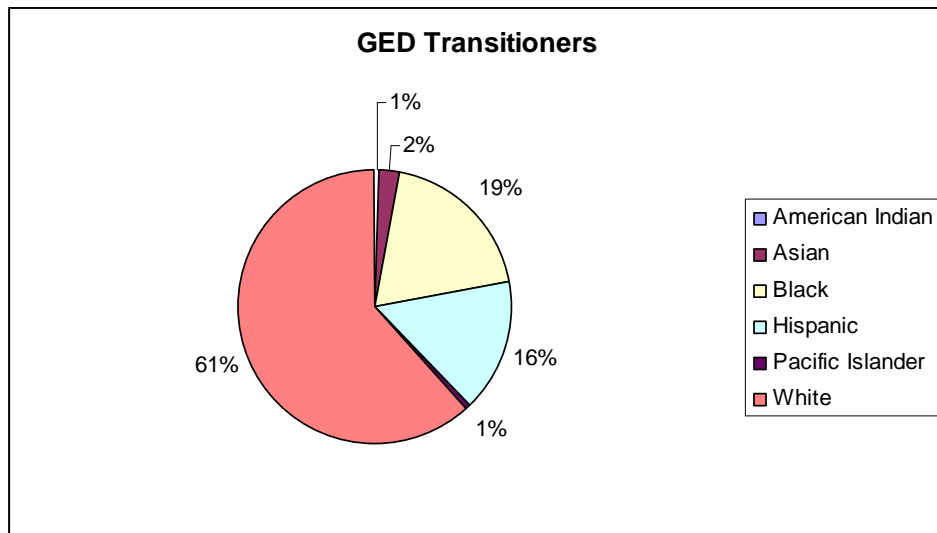
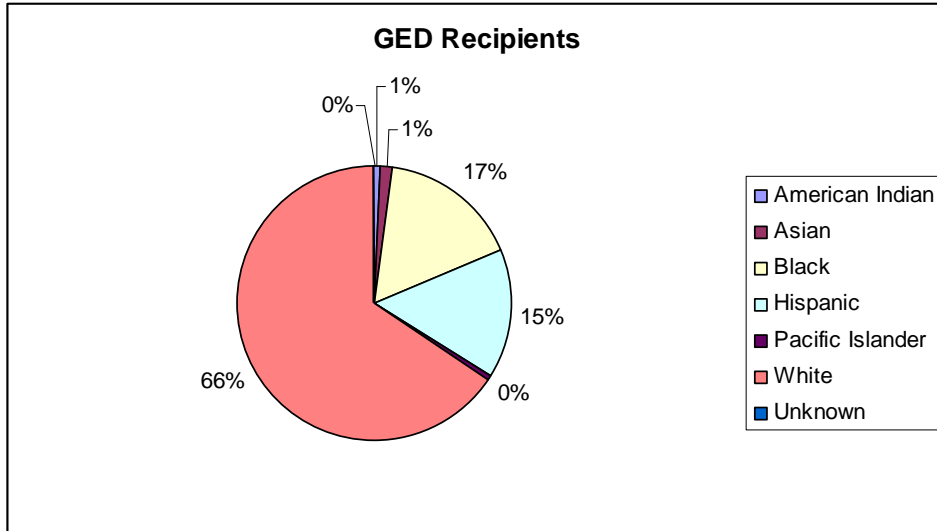


Exhibit 3 displays the age distribution of State of Florida High School Diploma recipients in 2004 and the rate of transition to postsecondary education by age group. State of Florida High School Diploma recipients tended to be young adults. Most (6,540 or 65.9%) State of Florida High School Diploma recipients were under the age of 21, and relatively few were over the age of 25; the median age was 19. The rate of transition to postsecondary education did not vary considerably by age. The rate ranged between 29% and 36% and there was no clear pattern across the age groupings.

Exhibit 3

Most State of Florida High School Diploma recipients transitioning to postsecondary education were between 16 and 20 years old; transition rate was relatively stable across age groups.

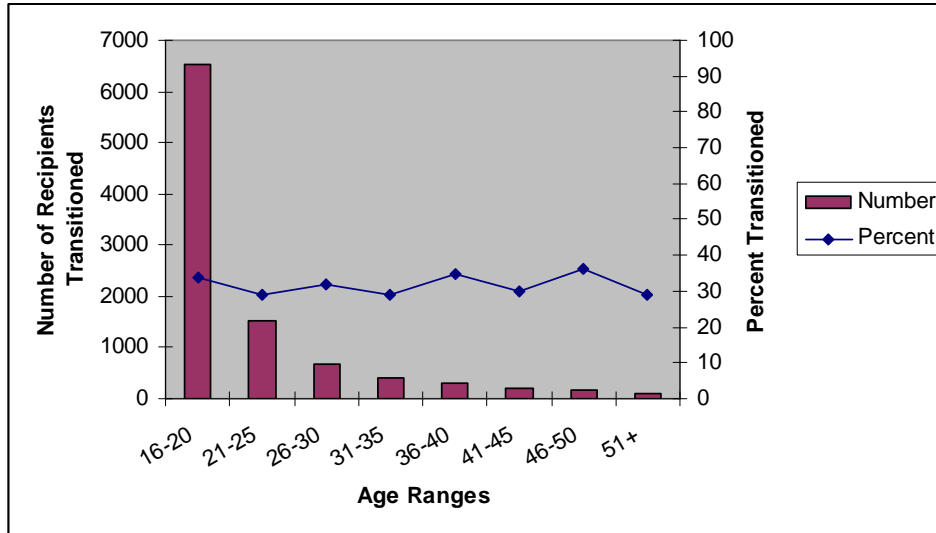


Figure 1

Characteristics of State of Florida High School Diploma recipients who enter postsecondary education vary somewhat by sector. Table 2 shows that there is a lower percentage of white students in community colleges and districts than in state universities, with district certificate programs having the lowest percentage (57%). On average, State of Florida High School Diploma recipients who transition to college credit programs are younger than those who transition to certificate programs. This is in part because many State of Florida High School Diploma recipients entering college credit programs are coming directly from high school. There does not appear to be significant variation or a pattern in gender distribution by sector with the percentage of male students ranging from 47% to 54%. State of Florida High School Diploma recipients entering state universities have the highest average GED score followed by those participating in community college credit courses, district certificate programs, and community college certificate courses. There is only a one-point difference (.03%) between the average scores of State of Florida High School Diploma recipients in community college certificate courses and those in district certificate programs.

Table 2
 Characteristics of State of Florida High School Diploma recipients who enter postsecondary education vary by sector.

Characteristics of State of Florida High School Diploma recipients Who Made Transition	Postsecondary Sector			
	State University System	Community College Credit Courses	Community College Certificate Courses	District Certificate Programs
Percent White	68%	63%	61%	57%
Median Age	18	18	20	21
Percent Male	54%	48%	53%	47%
Average GED Score	3,062	2,786	2,675	2,676

Pre-GED participation in adult education programs at community colleges appears to affect the post-GED transition into community college degree programs. Among State of Florida High School Diploma recipients who had participated in community college adult education programs, 36.8% subsequently enrolled in community college courses compared to 25.0% among State of Florida High School Diploma recipients with no previous exposure to formal adult education and 22.4% among those who enrolled in adult education in districts (see Table 3). This disparity could possibly be explained by differences in the characteristics of the two comparison groups, but the differences in race distribution, average age, and average GED score were marginal. This suggests that exposure to community college campuses, instructors, advisers, and students positively influence the transition of State of Florida High School Diploma recipients to community college coursework. No similar effect is evident among State of Florida High School Diploma recipients who had participated in adult education offered by school districts. The district adult education to district career and technical transition rate (7.2%) is only marginally higher than the transition from community college (3.5%) and no previous exposure to adult education (6.2%) to district postsecondary education.

Table 3
 Pre-test exposure to community college adult education increases likelihood of the transition of GED recipients into community college coursework.

Adult Education Exposure Pre-GED	Transition Rates by Sector				Characteristics of GED Recipients		
	Transition to SUS	Transition to District	Transition to Community College	No Transition	Average Age	Percent White	Average GED Score
Community College	0.2%	3.5%	36.8%	59.5%	22.7	66.5	2714
District	0.4%	7.2%	22.4%	70.1%	21.3	65.8	2697
No Adult Education	0.6%	6.2%	25.0%	68.2%	22.3	64.7	2735

State of Florida High School Diploma recipients' total postsecondary transition rates increased as total GED test scores increased (see Table 4). When disaggregated, however, the data reveal that community college and state university degree program enrollment increases while career certificate enrollment decreases as GED test scores increase. The postsecondary transition rate into community college credit courses was lowest among State of Florida High School Diploma recipients in the lowest score quartile (21.4%) and highest among recipients in the upper GED test score quartile (33%). Transition into school district clock-hour certificate courses decreased from 7.1% for State of Florida High School Diploma recipients in the lowest quartile range to 4.9% for State of Florida High School Diploma recipients in the upper score quartile.

Table 4
State of Florida High School Diploma recipients' postsecondary transition rates based on GED test scores.

Unduplicated n = 30,575*										
		Postsecondary System Transitioned								
GED Total Score Range	Total n	No Post-Secondary		Community College System		District Career Technical Center		State University System		Total Percent
		n	% of Score Range	n	% of Score Range	n	% of Score Range	n	% of Score Range	
2250 - 2480	7,764	5,540	71.4%	1,660	21.4%	554	7.1%	10	0.1%	100.0%
2490 - 2660	7,434	5,202	70.0%	1,711	23.0%	505	6.8%	16	0.2%	100.0%
2670 - 2890	7,714	5,233	67.8%	2,006	26.0%	455	5.9%	20	0.3%	100.0%
2900 - 3950	7,663	4,677	61.0%	2,530	33.0%	372	4.9%	84	1.1%	100.0%
All 2,250 - 39,950	30,575	20,652	67.5%	7,907	25.9%	1,682	5.5%	130	0.4%	

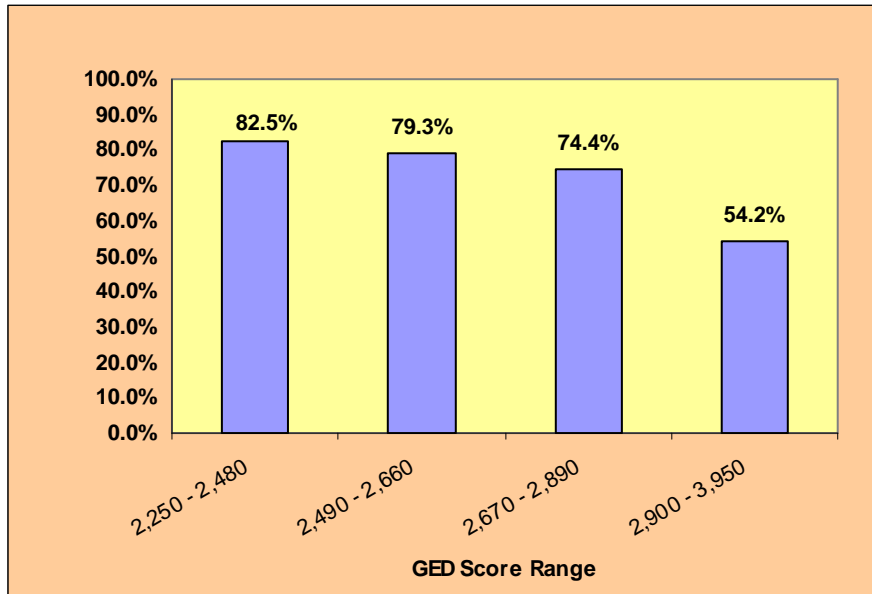
* The sum of the transitions to system is greater than the unduplicated number of State of Florida High School Diploma recipients due to duplication across system when found in multiple postsecondary systems.

State of Florida High School Diploma recipients' Computerized Placement Tests (CPT)-based college preparatory requirements decrease as GED total score increases. Exhibit 4 shows the percentage of GED recipients requiring one or more college preparatory courses by GED test score quartiles.² The graph shows that the percentage in the highest quartile (54.2%) was considerably lower than the other quartile ranges (74.4%, 79.3%, and 82.5%). The data suggest a downward trend in the need for remediation as GED scores increase, but the most pronounced difference occurs at the highest quartile.

² The CPT comprises three subtests: reading, English language skills, and elementary algebra. Based on an applicant's score, remediation may be required in any or all of these three subject areas.

Exhibit 4

Percentage of State of Florida High School Diploma recipients requiring one or more college preparatory courses based on Computerized Placement Test results.



Approximately nine percent (9.2%) of all 2004 State of Florida High School Diploma recipients who wrote the CPT (n=6,607) were considered college-ready as indicated by requiring no postsecondary preparatory courses.³ Only 1% of State of Florida High School Diploma recipients in the lowest score quartile were college-ready, and 56% required college preparatory courses in all three subject areas. In contrast, 25.9% of State of Florida High School Diploma recipients in the upper score quartile were assessed as college-ready, and 1.5% of the upper GED score quartile required college preparatory courses in all three subject areas.

The demographic characteristics of the 9.2% (n=616) who required no postsecondary preparatory courses differed slightly from those who required one or more. Fifty-eight percent of those requiring no postsecondary preparatory courses were male compared to 46% among those requiring one or more preparatory courses. Students requiring no postsecondary courses were more likely to be white, non-Hispanic (70.6%) than those requiring one or more postsecondary preparatory courses (61.4%). The median age for both the college preparatory and non-college preparatory groups was 18.

As indicated by the fewer college preparatory courses required in the upper GED test score quartile, the GED exam scores of those requiring no college preparatory courses were higher than among those requiring one or more. The median GED exam scale score of those not requiring college preparatory courses was 3,140 compared to the 2,700 median GED exam score of those requiring one or more college preparatory courses. The mean scores were 3,140 and 2,740 respectively.

As noted earlier, a previous Florida Department of Education study found 37.6% of standard high school diploma recipients were considered college-ready based on CPT scores. By varying GED exam cutoff

³ A previous study (Florida Department of Education, 2002) showed 16.1% of GED recipients were college-ready compared to 37.6% of students with a standard high school diploma.

score requirements corresponding to hypothetical college preparatory course requirements, the current data indicates that a GED exam total cutoff score of 3,200 produces a percentage (37.7%) of college readiness among State of Florida High School Diploma recipients similar to standard high school diploma recipients.

State of Florida High School Diploma recipients who transitioned to community college clock-hour certificate courses enrolled in fewer postsecondary preparatory courses than those who transitioned into community college credit courses.⁴ Unlike college credit programs which use the CPT to determine college readiness, clock-hour certificate programs use the Tests of Adult Basic Education (TABE) to determine program readiness. Because TABE results are not available at the state level and placement criteria differ among programs, it is not possible to use a single cut score to determine postsecondary readiness. Therefore, clock-hour certificate vocational preparatory instruction (VPI) course enrollments and community college enrollments in college preparatory courses were used as postsecondary readiness indicators. In theory, the more “postsecondary-ready” students are, the fewer postsecondary preparatory enrollments there will be within that population.

Exhibit 5a shows the percentage of State of Florida High School Diploma recipients enrolled in one or more vocational preparatory course after transitioning into clock-hour career certificate courses. Exhibit 5b shows the percentage of State of Florida High School Diploma recipients enrolled in one or more college preparatory courses after transitioning into college credit courses by GED test score quartile. Of State of Florida High School Diploma recipients in the lowest GED test score quartile who transitioned into clock-hour certificate programs, 22.7% required at least one vocational preparatory course. There is a clear downward trend as this percentage decreased as GED scores increased. Among those who transitioned into college credit courses, a much higher percentage, in all GED test score quartile ranges, enrolled in one or more preparatory courses. There was a downward trend in preparatory course enrollment as GED scores increased, but the largest percentage drop occurred between the second and first (highest) quartiles: 74.4% to 54.2%.

⁴ Community college and district vocational preparatory instruction (VPI) enrollments were combined after examining the data and finding no remarkable differences in VPI enrollments between the two systems.

Exhibit 5a

Percentage of 2004 State of Florida High School Diploma recipients who enrolled in one-or-more vocational preparatory courses after transitioning into a Florida clock-hour credit program (n=3,142).

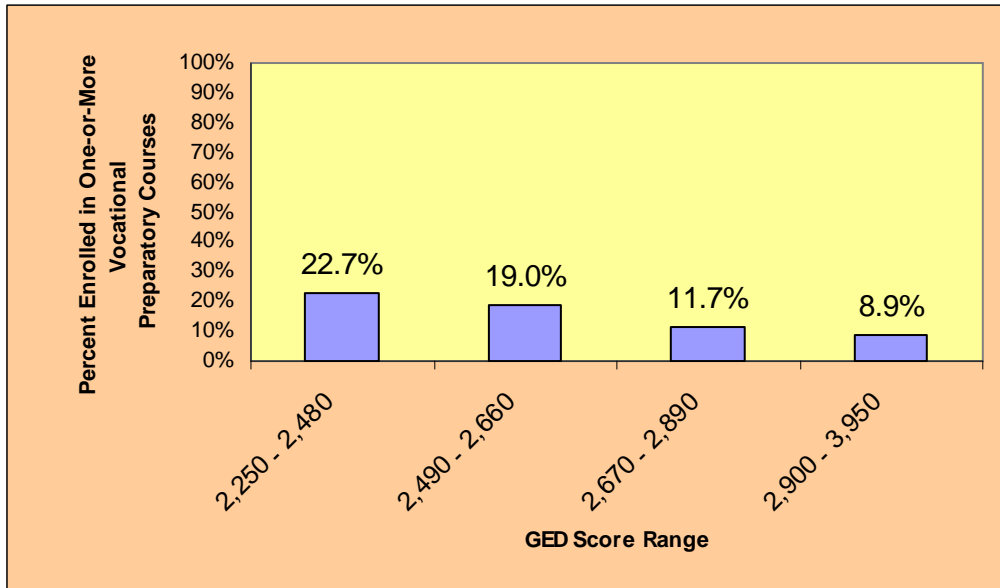
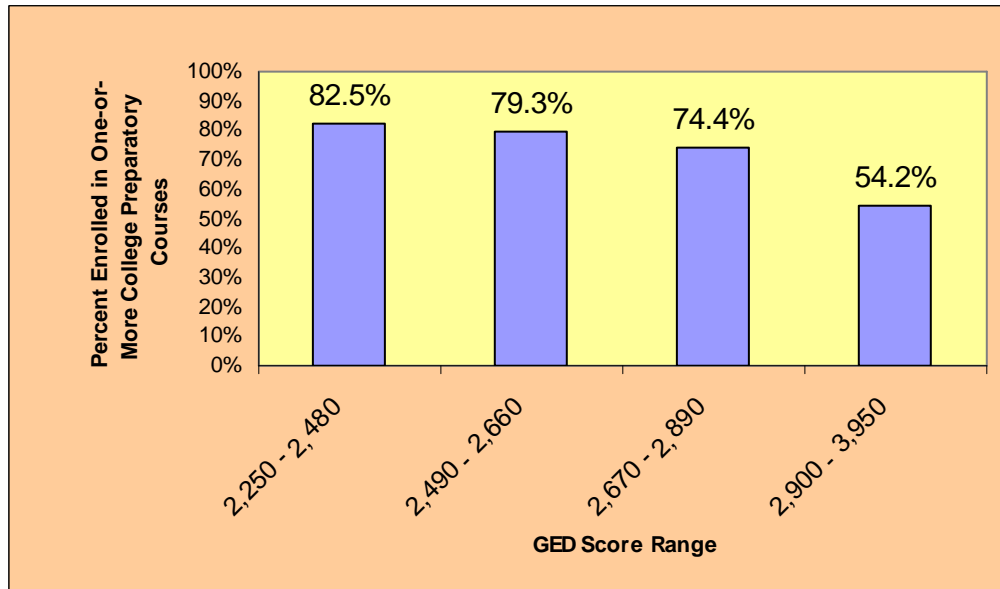


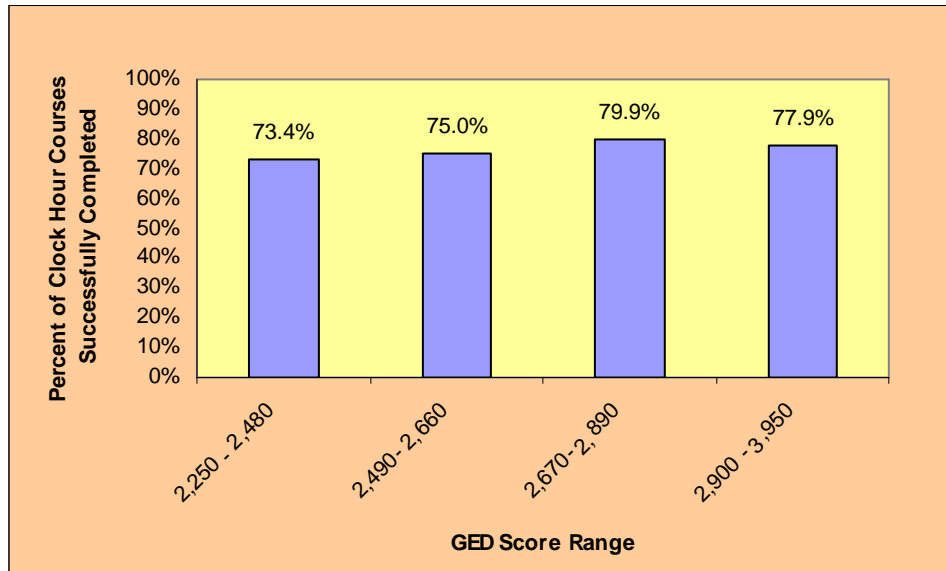
Exhibit 5b

Percentage of 2004 State of Florida High School Diploma recipients who enrolled in one-or-more college preparatory courses after transitioning into the Florida Community College Credit System (n=7,064).



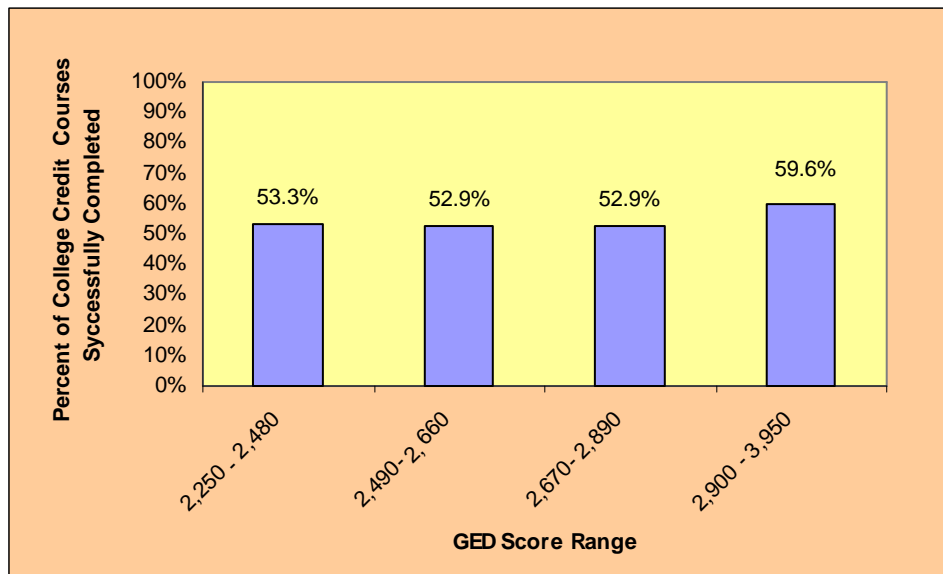
State of Florida High School Diploma recipients in all GED score quartiles successfully completed higher percentages of community college clock-hour certificate courses than college credit courses. Exhibits 6a and 6b display State of Florida High School Diploma recipients' course completion status.⁵ State of Florida High School Diploma recipients in the highest GED score quartile who enrolled in clock-hour certificate courses successfully completed 77.9% of those courses compared to 59.6% among upper quartile recipients taking college credit courses. The completion rate for certificate courses among lowest quartile State of Florida High School Diploma recipients was 73.4%; for college credit courses the rate was 53.3%. State of Florida High School Diploma recipients were less successful across all score quartiles in completing college credit courses as compared to certificate courses.

Exhibit 6a
 Percentage of clock-hour career courses successfully completed by GED recipients
 (course enrollment n=4,752).



⁵ Only community college courses were used for college credit/clock-hour certificate course comparisons: school district technical centers do not report grades for career clock-hour certificate courses.

Exhibit 6b
Percentage of college credit courses successfully completed by GED recipients
(course enrollment n= 48,569).



Discussion

State of Florida High School Diploma recipients may benefit by transitioning into postsecondary education through clock-hour certificate programs rather than directly entering college credit programs. State of Florida High School Diploma recipients in all score ranges are more likely to require preparatory courses for college credit courses than those who transition into postsecondary career clock-hour courses. Previous studies have found that the number of preparatory courses required inversely relates to postsecondary success as measured by persistence and degree completion (Adelman, 1998; Institute of Education Sciences National Center for Education Statistics, 2004). The different assessment methods used to determine college preparatory course requirements and clock-hour certificate preparatory course requirements may explain in part the differences in State of Florida High School Diploma recipients' preparatory course enrollments. The CPT scores used to determine college preparatory requirements are standard throughout all college credit programs. On the other hand, TABE preparatory placement scores differ across programs and scores are more closely aligned with the skills required for any given program.

In addition to career technical education students requiring less remediation, the current study also suggests State of Florida High School Diploma holders successfully complete a higher percentage of VPI courses than college preparatory courses. While a higher percentage of VPI courses have no grades awarded (60.6%) than do college preparatory courses (16.6%), in courses where grades were awarded, State of Florida High School Diploma holders successfully completed 70% of VPI courses and 45.8% of college preparatory courses. This may be at least partially due to basic literacy and mathematics instruction being contextualized: students learn basic skills in the context they will be used in their program of enrollment. For example, students in construction have the opportunity to learn basic math related to construction materials lengths, while nursing students may learn math in the context of liquid measurements. Students in technical programs may also upgrade reading skills by reviewing technical

manuals relevant to their program enrolled. Students can also acquire skills such as time-management and study skills, which may later assist in college credit program persistence and completion.

While the current study did not directly address persistence and completion, the grades awarded show that students who enter postsecondary education with a State of Florida High School Diploma are more likely to successfully complete career clock-hour courses than college credit courses. One national review of students who enter postsecondary education after successfully completing the GED exam (Boesal, Alaslām, & Smith, T.M, 1998, p. 43) concludes that those entering vocational certificate programs were nearly as likely to complete them as were standard high school graduates, while those entering an associate degree program are about half as likely as standard high school graduates to complete.

There are several possible explanations for students who had met secondary school requirements via successful GED exam completion having higher successful course completion rates in certificate clock-hour courses than in college credit courses in the current study, and in the higher persistence and completion rates in vocational certificate programs than in associate degree programs in the Boesal, Alaslām & Smith (1998) review. One possible reason for the differences may be the teaching/learning environment. A study of GED test takers by George-Ezell, Zhang, & Douglas (2006) found that the five highest reasons for leaving secondary school were 1) poor attendance, 2) dislike of school, 3) boredom, 4) unhappiness, and 5) poor study habits. These all could be indicative of a lack of interest or unwillingness to participate in the traditional lecture/listen teaching environment common in secondary schools. If true, these students may have the same reaction to similar environments in traditional college credit courses

Another possible explanation may lie in differences in students' abilities to learn specific material or to learn in different ways. It is widely recognized that intelligence is a multi-dimensional concept. For example, one standard test used to assess intelligence, The Wechsler Adult Intelligence Scale (WAIS), uses performance on 12 subtests to assess different aspects of intelligence. Various dimensions of intelligence have been proposed as relating to learning ability and learning styles. These include dimensions such as "right brain/left brain learners"; visual/auditory learners; concrete/abstract learners. Although there is no one definitive theory of the learning process, the fact that the various theories exist indicates the complexity of the process. Deakin University (2005) has also published a thorough review of learning styles as it relates to vocational education and training (VET). For many State of Florida High School Diploma recipients the curriculum and teaching styles found in career certificate programs may be a better fit than those of traditional degree programs.

The State of Florida has already recognized that progression to college credit programs through career certificate programs is a viable route into, and continuing through, postsecondary education. The Department of Education's articulation agreements and clock-hour-to-credit-hour conversion have been implemented to facilitate the transition from clock-hour certificate programs to college credit programs.

Recommendations

- 1) Develop strategies for increasing State of Florida High School Diploma recipients' awareness of the option to enter postsecondary education through career and technical education programs or college degree programs and that this does not have to be an either/or decision.
- 2) Continue developing policies such as the articulation and the clock-hour to college credit conversion to assist students in transitioning smoothly between the two systems.

- 3) Develop systematic methods to evaluate the effectiveness of these policies and procedures.
- 4) Investigate the possibility of increasing the GED total score requirement of 2,250 for secondary students participating in the GED Exit Option.

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